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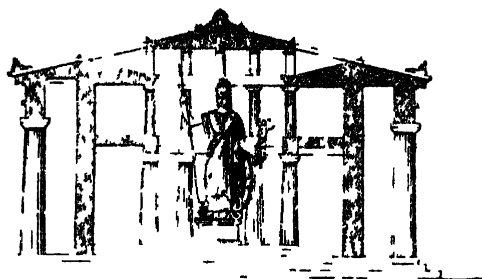
HISTORY OF ARCHITECTURE

IN ALL COUNTRIES,

FROM THE EARLIEST TIMES TO THE PRESENT DAY

BY JAMES FERGUSSON, F.R.S., M.R.A.S.,

FELLOW ROYAL INST. BRIT. ARCHITECTS



…the Parthenon, showing the mode in which light was admitted.

IN THREE VOLUMES.—VOL. I.

LONDON.

JOHN MURRAY, ALBEMARLE STREET.

1865.

WORKS BY THE SAME AUTHOR.



THE ILLUSTRATED HANDBOOK OF ARCHITECTURE. Being a Concise and Popular Account of the Different Styles prevailing in all Ages and all Countries. With 850 Illustrations. 8vo. 26s London, Murray, 1859

HISTORY OF THE MODERN STYLES OF ARCHITECTURE. Being a Sequel to the 'Handbook of Architecture' With 312 Illustrations. 8vo. 31s 6d London, Murray, 1862.

AN HISTORICAL INQUIRY INTO THE TRUE PRINCIPLES OF BEAUTY IN ART, more especially with reference to Architecture Royal 8vo 31s 6d London, Longmans, 1849

THE PALACES OF NINEVEH AND PERSEPOLIS RESTORED An Essay on Ancient Assyrian and Persian Architecture. 8vo 16s London, Murray 1851

ILLUSTRATIONS OF THE ROCK-CUT TEMPLES OF INDIA. 18 Plates in Tinted Lithography, folio with an 8vo volume of Text, Plans, &c 2l 7s 6d. London, Weale, 1845

PICTURESQUE ILLUSTRATIONS OF ANCIENT ARCHITECTURE IN HINDOSTAN 24 Plates in Coloured Lithography, with Plans, Woodcuts, and explanatory Text &c 1l 4s London, Hogarth, 1847

AN ESSAY ON THE ANCIENT TOPOGRAPHY OF JERUSALEM; with restored Plans of the Temple, and with Plans, Sections, and Details of the Church built by Constantine the Great over the Holy Sepulchre now known as the Mosque of Omar 16s, or 21s half Russia. London, Weale, 1847

NOTES ON THE SITE OF THE HOLY SEPULCHRE AT JERUSALEM An answer to 'The Edinburgh Review' 2s 6d London Murray, 1861

THE HOLY SEPULCHRE AND THE TEMPLE AT JERUSALEM. Being the Substance of Two Lectures delivered in the Royal Institution, Albemarle Street, on the 21st February, 1862, and 3rd March, 1865 Woodcuts 8vo 7s. 6d. London, Murray, 1865

THE MAUSOLEUM AT HALICARNASSUS RESTORED, IN CONFORMITY WITH THE REMAINS RECENTLY DISCOVERED Plates. 4to 7s 6d London, Murray, 1862.

AN ESSAY ON A PROPOSED NEW SYSTEM OF FORTIFICATION, with Hints for its Application to our National Defences 12s 6d. London, Weale 1849

THE PERIL OF PORTSMOUTH. FRENCH FLEETS AND ENGLISH FORTS Plan. 8vo 3s London, Murray, 1853

PORTSMOUTH PROTECTED: with Notes on Sebastopol and other Sieges during the Present War Plans. 8vo. 3s London, Murray, 1856.

OBSERVATIONS ON THE BRITISH MUSEUM, NATIONAL GALLERY, and NATIONAL RECORD OFFICE; with Suggestions for their Improvement 8vo London, Weale, 1849

LONDON PRINTED BY WILLIAM CLOWES AND SONS, STAMFORD STREET, AND CHARING CROSS.

PREFACE.

ALTHOUGH the present work may in some respects be considered as only a new edition of the 'Handbook of Architecture,' still the alterations, both in substance and in form, have been so extensive as to render the adoption of a new title almost indispensable. The topographical arrangement, which was the basis of the 'Handbook,' has been abandoned, and a historical sequence introduced in its place. This has entirely altered the argument of the book, and, with the changes and additions which it has involved, has rendered it practically a new work; containing, it is true, all that was included in the previous publication, but with a great deal that is new, and little that retains its original form.

The logical reasons for these changes will be set forth in their proper place in the body of the work; but meanwhile, as the Preface is that part of it which should properly include all personal explanations, I trust I may not be considered as laying myself open to a charge of egotism, if I avail myself of this conventional licence in explaining the steps by which this work attained its present form.

It was my good fortune to be able to devote many years of my life to the study of Architecture—as a fine art—under singularly favourable circumstances: not only was I able to extend my personal observations to the examples found in almost all the countries between China and the Atlantic shore, but I lived familiarly among a people who were still practising their traditional art on the same principles as those which guided the architects of the middle ages in the production of similar but scarcely more beautiful or more original works. With these antecedents, I found myself in possession of a considerable amount of information regarding buildings which had not previously been described, and—what I considered of more value—of an insight into the theory of the art, which was certainly even more novel.

Believing this knowledge and these principles to be of sufficient

importance to justify me in so doing, I resolved on publishing a work in which they should be embodied; and, in furtherance of this idea, sixteen years ago I wrote a book entitled 'The True Principles of Beauty in Art.' The work was not—nor was it intended to be—popular in its form. It was an attempt of a young author to do what he thought right and best, without consulting the wishes of the public on the subject, and the first result, as might have been—and indeed was—anticipated, was that no publisher would undertake it. In consequence of this, only the first volume was published, by Longmans in 1849, and that at my own expense and risk. The event proved that the booksellers were right. The book did not sell, and it became a question whether it was worth my while to waste my time and spend my money on a work which the public did not want, or whether it would not be wiser to abandon it, and wait for some more favourable opportunity. Various circumstances of no public interest induced me at the time to adopt the latter course, and I felt I could do so without any breach of faith, as the work, as then published, was complete in itself, though it had been intended to add two more volumes to the one already published.

Some years afterwards a proposal was made to me by Mr. Murray to utilize the materials collected for the more ambitious work in the more popular form of a Handbook of Architecture. The work was written in a very much more popular manner than that I had previously adopted, or than I then liked, or now think worthy of the subject; but the result proved that it was a style much better suited to the public demand, for this time the work was successful. Since its publication in 1855 a large number of copies have been sold; the work has now for some years been out of print, and a new edition is demanded. Under these circumstances the question arose, whether it would be better to republish the Handbook in its original form, with such additions and emendations as its arrangement admitted of, or whether it would not be better to revert to a form nearly approaching that adopted in the 'True Principles,' rather than that followed in the composition of the Handbook, as one more worthy of the subject, and better capable of developing its importance.

The immense advantages of the historical over the topographical method are too self-evident to require being pointed out, whenever the object is to give a general view of the whole of such a subject as

that treated of in those volumes, or an attempt is made to trace the connexion of the various parts to one another. If the intention is only to describe particular styles or separate buildings, the topographical arrangement may be found more convenient; but where anything beyond this is attempted, the historical method is the only one which enables it to be done. Believing that the architectural public do now desire something more than mere dry information with regard to the age and shape of buildings, it has been determined to remodel the work and to adopt the historical arrangement.

In the present instance there does not seem to be the usual objection to such a rearrangement—that it would break the thread of continuity between the old and the new publication—inasmuch as, whichever method were adopted, the present work must practically be a new book. The mass of information obtained during the last ten years has been so great that even in the present volume a considerable portion of it has had to be rewritten, and a great deal added. In the second volume the alterations will be even more extensive. The publication of the great national work on Spanish antiquities,[1] of Parcerisa's 'Beauties, &c., of Spain,'[2] and, above all, Mr. Street's work,[3] have rendered Spanish architecture as intelligible as that of any other country, though ten years ago it was a mystery and a puzzle. Schultz's[4] work has rendered the same service for Southern Italy, while the publications of De Vogüé[5] and Texier[6] will necessitate an entirely new treatment of the early history of Byzantine art. The French have been busily occupied during the last ten years in editing their national monuments, so have the Germans. So that in Europe little of importance remains to be described. In Asia, too, great progress has been made. Photography has rendered us familiar with many buildings we only knew before by description, and both the Hindoo and Mahometan remains of India are now generally accessible to the public. Colonel Yule's[7] work on Burmah and M. Mouhot's[8] on Siam have made us acquainted with the form of

[1] 'Monumentos Arquitectonicos de España.' Folio. Madrid, 1860, et seqq.

[2] Parcerisa, 'Recuerdos y Bellezas de España.' Folio. Madrid. In course of publication. 10 vols. published.

[3] 'Gothic Architecture in Spain,' by G. E. Street. Murray. 1865.

[4] 'Denkmäler der Kunst des Mittelalters in Unter Italien,' by H. W. Schultz. Dresden, 1860. Quarto. Atlas, folio.

[5] 'Syrie Centrale,' by Count M. De Vogüé. Paris. In course of publication.

[6] 'Byzantine Architecture,' by Chev. Texier. London, 1864.

[7] 'Mission to the Court of Ava in 1855,' by Col. Yule. Quarto. London, 1858.

[8] 'Travels in Siam and Cambodia,' by Henri Mouhot. London: John Murray. 1864.

the buildings of these countries, and China too has been opened to the architectural student. When the Handbook was written there were many places and buildings regarding which no authentic information was available. That can hardly be said to be the case now as respects any really important building, and the time, therefore, seems to have arrived when their affiliation can be pointed out, if it ever can be, and the study of architecture may be raised from dry details of measurements to the dignity of a historical science.

In the present work it is intended that the two first volumes shall cover the same extent of ground as was comprised in the two volumes of the 'Handbook,' as originally published, with such enlargement as is requisite to incorporate all recent additions to our knowledge; and chapters will be added on Celtic—or, as they are vulgarly called, Druidical—remains omitted in the 'Handbook.' The 'History of Modern Architecture' will thus form the third volume of the work; and when—if ever—it comes to be reprinted, it is intended to add a Glossary of architectural terms, and other matters necessary to complete the book. When all this is done, the work will be increased from 1500 pages, which is the number comprised in the three volumes as at present published, to more than 2000 pages, and the illustrations will be augmented in at least an equal ratio.[1] Notwithstanding all this, it is too evident that even then the work can only be considered as an introduction to the subject, and it would require a work at least ten times as large to do full justice even to our present knowledge of the history of architecture. Any one at all familiar with the literature of the subject can see at once why this is so. Viollet Le Duc, for instance, is now publishing a dictionary of French architecture from the eleventh to the sixteenth century. The work will consist, when complete, of ten volumes, and probably 5000 illustrations. Yet even this will by no means exhaust the history of the style in one country of Europe during the five centuries indicated. It would require at least as many volumes to illustrate, even imperfectly, the architectural history of England during the same period. Germany would fill an equal number; and the mediæval architecture of Italy and Spain could not be described in less space.

[1] The number of illustrations in the chapters of the Handbook comprised in this 1st volume of the History was 441. They now stand at 536: and in the second volume the ratio of increase will probably be even greater.

In other words, fifty volumes and 20,000 woodcuts would barely suffice to complete what must in the present work be compressed into 500 pages, with a like number of illustrations.

Under these circumstances it will be easily understood that this book is far from pretending to be a complete or exhaustive history of the art. It is neither an atlas nor a gazetteer, but simply a general map of the architectural world, and—if I may be allowed the small joke—on Mercator's projection. It might with propriety be called an abridgment, if there existed any larger history from which it could be supposed to be abridged. At one time I intended to designate it 'An Historical Introduction to the Study of Architecture, considered as a Fine Art;' but though such a title might describe correctly enough the general scope of the work, its length is objectionable, and, like every periphrasis, it is liable to misconstruction.

The simple title of 'History' has therefore been adopted, under the impression that it is entitled to such a denomination until at least some narrative more worthy of the subject takes its place. Considering the limits it thus became necessary to impose on the extent of the work, it must be obvious that the great difficulty of its composition was in the first place to compress so vast a subject into so small a compass; and next to determine what buildings to select for illustration, and what to reject. It would have been infinitely easier to explain what was necessary to be said, had the number of woodcuts been doubled. Had the text been increased in the same ratio a great many things might have been made clear to all, which will now, I fear, demand a certain amount of previous knowledge on the part of my readers. To have done this, however, would have defeated some of the great objects of the present publication, which is intended to convey a general view of the history and philosophy of the subject, without extending the work so as to make it inconveniently large, or increasing the price so as to render it inacessible to a large number of readers. The principle consequently that has been adopted in the selection of the illustrations is, first, that none of the really important typical specimens of the art shall be passed over without some such illustration as shall render them intelligible; and, after this, those examples are chosen which are remarkable either for their own intrinsic merit, or for their direct bearing in elucidation of the progress or affinities of the style under discussion; all others being

sternly rejected as irrelevant, notwithstanding the almost irresistible temptation at times to adorn my pages with fascinating illustrations. The reader who desires information not bearing on the general thread of the narrative must thus have recourse to monographs, or other special works, which alone can supply his wants in a satisfactory manner.

Even assuming that these principles have always been judiciously attended to—which I fear is not the case—this work must still from its very nature be far from complete. The most obvious want is that of a complete "Index of Buildings." The form which such a work should take appears to be something like the following scheme:—1. The world should be divided into separate architectural provinces. 2. All the buildings of sufficient importance in each province to justify their being named should be inserted in lists, and arranged either chronologically or alphabetically, or both—first one and then the other. 3. To whichever of these lists is considered the principal there should be added, after the name of each building,—firstly, its date; secondly, its dimensions; thirdly, a short description of its more distinguishing peculiarities; and, fourthly, a reference to all those works in which information regarding it may be obtained. Each building would then occupy three or four lines, while the larger and most important might occupy from twelve to fifteen.

It has been suggested to me that such lists ought to be incorporated in the present work, but to this course there appear to be several objections. Firstly, it would increase the size of each volume by at least one-third. Secondly, without a great deal of repetition and indexing the lists could neither be so complete nor so easily consulted as if printed separately. Thirdly, such insertions would entirely alter the scope and character of this History.

The object for which such a compilation is required is not to fill up the gaps in a narrative, but as a dictionary of reference to be consulted by the student, not only in reading such works as this, but special essays, monographs, and every class of work in which buildings may happen to be even incidentally mentioned.

There is still another work, to the execution of which I have long looked forward, though whether I shall ever see it even attempted seems problematical. It is a New Parallel of Architecture. The only work of the sort which exists—except in so far as this one supplies its

place—is Durand's,[1] published in the first year of the present century; but, as may be supposed from its date, singularly imperfect. Gothic Architecture had hardly been discovered. The Byzantine was unknown. Except as it appeared in Spain, the Saracenic was a myth. So were all the Eastern styles. The Classic and modern Italian were then all in all. It need hardly be added that such a narrow view of the art has now become intolerable. The new form I would suggest for such a work would be 10 volumes, small folio, each containing at least 100 engraved plates, with a page of letterpress to each. The scale adopted should be double that used in the present work,—50 feet to the inch, or one six-hundredth part ($\frac{1}{600}$) of the real size for the plans, and 25 feet to 1 inch, or one three-hundredth ($\frac{1}{300}$) of the real size for the sections and elevations. The division of the work might be about the same as that adopted for this History, or 2 volumes for Ancient Art before the time of Constantine, 4 volumes for Christian Architecture from his epoch to that of Charles V.; 2 volumes to the styles called Pagan in this work, and 2 to Modern Architecture.

To such a work the present History would form a fitting and appropriate introduction, and such indeed is its proper and intended function.[2]

These three works together would form a corpus of Architectural literature which probably would at present suffice for general unprofessional purposes; but even then the series would be incomplete without at least two additional volumes. The first to contain a popular history of "Military Architecture" in all ages and countries. Viollet Le Duc has just published a volume on that of France during the middle ages, and a beautiful and interesting volume it is. But, to complete this work, it wants chapters on the military works of the Greeks and Romans; and now that the Bastion system has ceased to be practised,

[1] Durand, 'Recueil et Parallels des Edifices de tout Genre,' &c. Paris, An. IX. Folio. The scale is smaller than that adopted in this work, being about 125 feet to 1 inch for plans, or $\frac{1}{1500}$, and twice that scale for elevations, or $\frac{1}{750}$—instead of $\frac{1}{1200}$ and $\frac{1}{600}$ as adopted here.

[2] An Introduction was prefixed to the 'True Principles of Beauty in Art,' containing a classification of human knowledge, with especial reference to the essential distinction between Science and Art, and defining the boundary line between the two. Of course no author is a judge of his own work, but, whether good or bad, I look with more affection on this essay than on anything I ever wrote or am likely again to write. Some years ago it was revised, partly rewritten, and copied out fair for the press. If it ever is published, it will be in a volume by itself, and may be treated either as a separate work or as a general introduction to the whole subject.

its history may be written, and the principles on which it was constructed should be explained.

The other volume would contain a history of "Civil Engineering." The Bridges and Aqueducts of the Romans and other nations have been incidentally mentioned in this work. But, in order to obtain a general view of the Building Art of the world, the history of the more utilitarian branches of the art ought to be completed and brought down to the present day when the engineers are surpassing the architects in the extent and solidity of their works, and occasionally treading on their heels, even in the art of design.

Now that public attention is being turned to architectural subjects to a greater extent than at any time since the cinque-cento period, it seems hardly doubtful but that all these works will be undertaken. Whether the time has quite arrived for their successful prosecution is not so clear, but it cannot be far off. The materials have already been collected, though they exist at present only in heterogeneous and frequently inaccessible forms. All that is wanted is that they should be selected and arranged so as to make them generally intelligible. This seems so desirable and so in accordance with the public wants, that it must, I conceive, before long be done. What part—if any—I may perform in the task depends on circumstances over which I have no control.

It may tend to explain some things which appear open to remark in the following pages, if I allude here to a difference of opinion which has frequently been pointed out as existing between the views I have expressed and those generally received regarding several points of ancient history or ethnology. I always have been aware that this discrepancy exists; but it has appeared to me an almost inevitable consequence of the different modes of investigation pursued. Almost all those who have hitherto written on these subjects have derived their information from Greek and Roman written texts; but, if I am not very much mistaken, these do not suffice. The classic authors were very imperfectly informed as to the history of the nations who preceded or surrounded them; they knew very little of the archæology of their own countries, and less of their ethnography. So long, therefore, as our researches are confined to what they had written, many important problems remain unsolved, and must ever remain as unsolvable as they have hitherto proved.

My conviction is, that the lithic mode of investigation is not only capable of supplementing to a very great extent the deficiencies of the graphic method, and of yielding new and useful results, but that the information obtained by its means is much more trustworthy than anything that can be elaborated from the books of that early age. It does not therefore terrify me in the least to be told that such men as Niebuhr, Cornewall Lewis, or Grote, have arrived at conclusions different from those I have ventured to express in the following pages. Their information is derived wholly from what is written, and it does not seem ever to have occurred to them, or to any of our best scholars, that there was either history or ethnography built into the architectural remains of antiquity.

While they were looking steadily at one side of the shield, I fancy I have had a glimpse of the other.

It has been the accident of my life—I do not claim it as a merit—that I have wandered all over the old world. I have seen much that they never saw, and I have had access to sources of information of which they do not suspect the existence. While they were trying to reconcile what the Greek or Roman authors said about nations who never wrote books, and with regard to whom they consequently had little information, I was trying to read the history which these very people had recorded in stone, in characters as clear and far more indelible than those written in ink. If, consequently, we arrived at different conclusions, it may possibly be owing more to the sources from which the information is derived than to any difference between the individuals who announce it.

Since the invention of printing, I am quite prepared to admit that the "litera scripta" may suffice. In an age like the present when nine-tenths of the population can read, and every man who has anything to say rushes into print, or makes a speech which is printed next morning, every feeling and every information regarding a people may be dug out of its books. But it certainly was not so in the Middle Ages, nor in the early ages of Greek or Roman history. Still less was this so in Egypt, nor is it the case in India, or in many other countries; and to apply our English 19th century experience to all these seems to me to be a mistake. In those countries and times, men who had a hankering after immortality were forced to build their aspirations into the walls of their tombs or of their temples. Those who had poetry in their

souls, in nine cases out of ten, expressed it by the more familiar vehicle of sculpture or painting rather than in writing. To me it appears that to neglect these in trying to understand the manners and customs, or the history of an ancient people, is to throw away one half, and generally the most valuable half, in some cases the whole, of the evidence bearing on the subject. So long as learned men persist in believing that all that can be known of the ancient world is to be found in their books, and resolutely ignore the evidence of architecture and of art, we have little in common. I consequently feel neither abashed nor ashamed at being told that men of the most extensive book-learning have arrived at different conclusions from myself—on the contrary, if it should happen that we agreed in some point to which their cotemporary works did not extend, I should rather be inclined to suspect some mistake, and hesitate to put it down.

There is one other point in which I fancy misconception exists, of a nature that may probably be more easily removed by personal explanation than by any other means. It is very generally objected to my writings, that I neither understand nor appreciate the beauties of Gothic architecture, and consequently criticise it with undue severity. I regret that such a feeling should prevail, partly because it is prejudicial to the dissemination of the views I am anxious to promulgate, but more because at a time when in this country the admiration of Gothic art is so nearly universal, it alienates from me the best class of men who love the art, and prevents their co-operating with me in the improvement of our architecture, which is the great object which we all have at heart.

If I cannot now speak of Gothic Architecture with the same enthusiasm as others, this certainly was not the case in the early part of my career as a student of art. Long after I turned my attention to the subject, I knew and believed in none but the mediæval styles, and was as much astonished as the most devoted admirer of Gothic Architecture could be, when any one suggested that any other forms could be compared with it. If I did not learn to understand it then, it was not for want of earnest attention and study. I got so far into its spirit that I thought I saw then how better things could be done in Gothic art than had been done either in the middle ages or since; and I think so now. But if it is to be done, it must be by free thought, not by servile copying.

My faith in the exclusive pre-eminence of mediæval art was first

shaken when I became familiar with the splendid remains of the Mogul and Pathan emperors of Agra and Delhi, and saw how many beauties of even the pointed style had been missed in Europe in the middle ages. My confidence was still further weakened when I saw what richness and variety the Hindoo had elaborated not only without pointed arches, but indeed without any arches at all. And I was cured when, after a personal inspection of the ruins of Thebes and Athens, I perceived that at least equal beauty could be obtained by processes diametrically opposed to those employed by the mediæval architects.

After so extended a survey, it was easy to perceive that beauty in architecture did not reside in pointed or in round arches, in bracket capitals or horizontal architraves, but in thoughtful appropriateness of design and intellectual elegance of detail. I became convinced that no form is in itself better than any other, and that in all instances those are best which are most appropriate to the purposes to which they are applied.

So self-evident do these principles — which are the basis of the reasoning employed in this book — appear to me, that I feel convinced that there are very few indeed even of the most exclusive admirers of mediæval art who would not admit them, if they had gone through the same course of education as has fallen to my lot. My own conviction is, that the great difference which seems to exist between my views and those of the parties opposed to them arises almost entirely from this accident of education.

In addition to this, however, we must not overlook the fact that for three centuries all the architects in Europe concurred in believing that the whole of their art began and ended in copying classical forms and details. When a reaction came, it was not, unfortunately, in the direction of freedom; but towards a more servile imitation of another style, which — whether better or worse in itself — was not a style of our age, nor suited to our wants or feelings.

It is perhaps not to be wondered at that, after three centuries of perseverance in one particular groove, men should have ceased to have any faith in the possibility of reason or originality being employed in architectural design. As, however, I can adduce in favour of my views 3000 years of perfect success in all countries and under all circumstances, against 300 years of absolute failure in consequence of the copying system, though under circumstances the most favourable

to success in other respects, there seems at least an *à priori* probability that I may be right, and that the copyists may be mistaken.

I may be deceiving myself, but I cannot help fancying that I perceive signs of a reaction. Some men are becoming aware of the fact that "Archæology is not Architecture;" and would willingly see something done more reasonable than an attempt to reproduce the middle ages. The misfortune is, that their enlightenment is more apt to lead to despondency than to hope. "If," they ask, "we cannot find what we are looking for in our own national style, where are we to look for it?" The obvious answer, that it is to be found in the exercise of common sense, where all the rest of the world have found it, seems to them beside the mark. Architecture with most people is a mystery —something different from all other arts; and they do not see that it is and must be subject to the same rules, and must be practised in the same manner, if it is to be successful.

Whether the nation will or will not soon awaken to the importance of this prosaic anti-climax, one thing at least seems certain and most hopeful. Men are not satisfied with what is doing; a restless, inquiring spirit is abroad, and, if people can only be induced to think seriously about it, I feel convinced that they will be as much astonished at their present admiration of Gothic town-halls and Hyde Park Albert Memorials, as we are now at the Gothic fancies of Horace Walpole and the men of his day.

It is with regret that I feel myself constrained by circumstances to publish the first volume without the second, since much that is suggested in the part now given to the public can only be made clear and intelligible on the appearance of the remaining chapters. The second volume is, however, in active preparation; and so soon as the new woodcuts requisite for its illustration are sufficiently advanced, will be sent to press, and unless some very unforeseen accident occurs, it will certainly be ready for publication before next autumn.

NOTE.

Although every possible care has been taken in selecting the best authorities for the statements in the text of the work, as well as the subjects for illustration, still no one acquainted with the state of the literature of architecture will need to be told that in many branches the materials do not exist for a correct description of the style, and that the drawings which are available are frequently so inexact and with scales so carelessly applied, that it is impossible at times to avoid error. The plans throughout the book are on too small a scale to render any minute errors apparent, but being drawn to a uniform scale of 100 feet to 1 inch, or $\frac{1}{1200}$ of the real size, they are quite sufficient as a means of comparison, even when not mathematically correct. They suffice to enable the reader to judge of the relative size of two buildings by a mere inspection of the plans, as correctly as he could by seeing the two buildings themselves, without actually measuring them in all their details.

As a general rule, the sections or elevations of buildings, throughout the book, are drawn to a scale double that of the plans, viz., 50 feet to 1 inch, or $\frac{1}{600}$ of the real dimensions; but, owing to the great size of many of them, it has been found impossible to carry out this in all instances: where it has not been effected the departure from the rule is always noted, either below the woodcut or in the text.

No lineal dimensions are quoted in the text except such as it is believed can be positively relied upon, and in all instances these are reduced to English feet. The superficial measures, like the plans, are quite sufficient for comparison, though not to be relied upon as absolutely correct. One great source of uncertainty as regards them is the difficulty of knowing at times what should be included in the building referred to. Should, for instance, the Lady Chapel at Ely be considered an integral part of the Cathedral, or the Chapter-house at Wells? Should the sacristies attached to Continental cathedrals be considered as part of the church? or such semi-detached towers as the south-western one at Bourges? What constitutes the temple at Karnac, and how much of this belongs to the Hypostyle Hall? These and fifty other questions occur in almost every instance, which may lead two persons to very different conclusions regarding the superficial dimensions of a building, even without the errors inherent in imperfect materials.

When either the drawing from which the woodcut is taken was without a scale, or the scale given could not be depended upon, "No scale" has been put under the cut, to warn the reader of the fact. When the woodcut was either too large for the page, or too small to be distinct if reduced to the usual scale, a scale of feet has been added under it, to show that it is an exception to the rule.

Capitals, windows, and details which are meant to illustrate forms or construction, and not particular buildings, are drawn to any scale that seemed best to express the purpose for which they are inserted; when they are remarkable for size, or as individual examples, a scale has been added; but this is the exception, not the rule.

Every pains has been taken to secure the greatest possible amount of accuracy, and in all instances the sources from which the woodcuts have been taken are indicated. Many of the illustrations are from original drawings, and of buildings never before published.

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BOOK V.—SCANDINAVIA.

LIST OF ILLUSTRATIONS.

HISTORY

OF

ARCHITECTURE.

VOL. I.

INTRODUCTION.

PART I.

DEFINITION OF ARCHITECTURE.

I.

LIKE every other object of human inquiry, Architecture may be studied from two distinct points of view. Either it may be regarded statically, and described scientifically as a thing existing, without any reference to the manner in which it was invented; or it may be treated historically, tracing every form from its origin, and noting the influence one style has had upon another in the progress of time.

The first of these methods is more technical, and demands on the part of the student very considerable previous knowledge before it can be successfully prosecuted. The other besides being more popular and easily followed, has the advantage of separating the objects of study into natural groups, and tracing more readily their connexion and relation to one another. The great superiority, however, of this mode of study arises from the fact that, when so treated, Architecture ceases to be a mere art, interesting only to the artist or his employer, but becomes one of the most important adjuncts of history, filling up many gaps in the written record, and giving life and reality to much that without its presence could with difficulty be realised.

A still more important use of architecture, when followed as a history, is found in its ethnographic value. Every different race of men had their own peculiar use for the productions of this art, and their own mode of expressing their feelings or aspirations by its means. When properly studied, it consequently affords a means as important as language for discriminating between the different races of mankind,—often more so, and one always more trustworthy and more easily understood.

In consequence of these advantages, the historical mode is that which will be followed in this work. But before entering upon the narrative, it will be well if a correct definition of what architecture really is can be obtained. Without some clear views on the technical position of the art, much that follows will be unintelligible, and its meaning may be mistaken.

A great deal of the confusion of ideas existing on the subject of architecture arises from the fact, that writers have been in the habit

of speaking of Painting, Sculpture, and Architecture as three similar fine arts, practised on the same principles. This error arose in the 16th century, when in a fatal hour painters and sculptors undertook also the practice of architecture, and builders ceased to be architects. This confusion of ideas has been perpetuated to the present hour; and much of the degraded position of the art at this day is owing to the mistake then made. It cannot therefore be too strongly insisted upon, that there is no essential connexion between painting and sculpture on the one hand and architecture on the other.

The two former rank among what are called Phonetic arts. Their business is to express by colour or form ideas that could be—generally have been—expressed by words. With the Egyptians their hieroglyphical paintings were their only means of recording their ideas. With us such series of pictures as Hogarth's 'Marriage à la Mode' or 'The Rake's Progress' are novels written with the brush; and many of our mediæval cathedrals possess whole Bibles carved in stone. Poetry, Painting, and Sculpture are three branches of one form of art, refined from Prose, Colour, and Carving, and form a group apart, interchanging ideas and modes of expression, but always dealing with the same class of ideas, and appealing to the same class of feelings.

Distinct and separate from these Phonetic arts is another group generally known as the Technic arts, comprising all those which minister to the primary wants of mankind under the various heads of food, clothing, and shelter. Like the first-named group, each of these, besides supplying the necessities of mankind, is capable of being so used as to afford him such gratification as can be obtained through the senses. Food, besides appeasing hunger, can by the science of gastronomy become to many a source of infinite enjoyment. Clothing, with the fairer portion of mankind at least, becomes one of the more important of fine arts. And building, which in its primary application is merely a means of obtaining shelter, is capable of being refined into the fine art architecture, and as such, becomes and has always been considered the queen of this group of arts. This does not arise from there being anything essentially different in its essence, or in the mode in which it is practised or has been elaborated from its utilitarian primary, which distinguishes it from its humbler sisters. It attained this pre-eminence from its dimensions, its durability, and the lofty purposes to which it has been applied, but it did so without ever losing sight of its original destination. The wigwam grew into a hut, the hut into a house, the house into a palace, and the palace into a temple, by well-defined and easily traced gradations; but it never lost the original idea of a shelter, and in its most magnificent form it is a mere amplification of the original hut, but grown so solid that it seems designed to last for ever, and so well proportioned and so exquisitely ornamented that, instead of being one of the most commonplace, it ranks with the most

beautiful productions of man's hands. In none of its stages is imitation an element of composition; no true building ever was designed to look like anything in either the animal, vegetable, or mineral kingdoms. In all instances it is essentially a creation of man's mind, and designed to subserve some practical purpose which he has in view. A building can tell no story, and it is only by inference that it can be made to express an emotion.

It is true that painting and sculpture may be added to a building to any extent, and a really perfect building is never without these adjuncts; but they are not, or at least never should be, essentials, and the building should be always complete without them. All our cathedrals were so adorned in the middle ages, though in too many instances these ornaments have been swept away. Still the buildings remain complete in themselves as works of architecture, though as grand artistic compositions their value was no doubt doubled by the association: but this does not justify us in judging of the canvas by the same rules that we would apply to the picture that may be painted upon it, or of the marble by the figure that may be carved out of it.

The fact is that architecture is in its origin as essentially a useful art as weaving or shipbuilding, but almost alone of all the sister arts it is the one that has, from various concurrent circumstances, been refined into a fine art. When inspired with so lofty an aim as that of providing a house or temple worthy of the Deity, it became one of the noblest and most beautiful of man's creations. Still it is essentially of human design in all its parts, and never strives to imitate nature, except in copying, so far as man's finite intelligence can do, those perfect principles of design which pervade every natural production, that is found wherever man's knowledge extends throughout the whole universe of God.

II.

Bearing these distinctions in mind, it may be possible to give a more definite answer than has usually been done, to questions which are frequently asked, but to which hitherto no satisfactory reply has been accorded in modern times. "*What*," it is frequently asked, "*is the true definition of the word Architecture or of the Art to which it applies?*" "*What are the principles which ought to guide us in designing or criticising Architectural objects?*"

Fifty years ago the answers to these questions generally were, that architecture consisted in the closest possible imitation of the forms and orders employed by the Romans; that a church was well designed exactly in the proportion in which it resembled a heathen temple; and that the merit of a civic building was to be measured by its imitation, more or less perfect, of some palace or amphitheatre of classic times.

In the beginning of this century these answers were somewhat

modified by the publication of Stuart's works on Athens; the word Grecian was substituted for Roman in all criticisms, and the few forms that remain to us of Grecian art were repeated *ad nauseam* in buildings of the most heterogeneous class and character.

At the present day churches have been entirely removed from the domain of classic art, and their merit is made to depend on their being correct reproductions of mediæval designs. Museums and town-halls still adhere to classic forms, alternating between Greek and Roman; and while in some of our public buildings an attempt is made to reproduce the middle ages, in our palaces and clubhouses that compromise between classicality and common sense which is called Italian is generally adhered to. These, it is evident, are the mere changing fashions of art. There is nothing real or essential in this Babel of styles, and we must go deeper below the surface to enable us to obtain a true definition of the art or of its purposes. Before attempting this, however, it is essential to bear in mind that two wholly different systems of architecture have been followed at different periods in the world's history.

The first is that which prevailed since the art first dawned, in Egypt, in Greece, in Rome, in Asia, and in all Europe, during the middle ages, and generally in all countries of the world down to the time of the Reformation in the 16th century, and still predominates in remote corners of the globe wherever European civilization or its influences have not yet penetrated. The other being that which was introduced with the revival of classic literature contemporaneously with the reformation of religion, and still pervades all Europe, and wherever European influence has established itself.

In the first period the art of architecture consisted in designing a building so as to be most suitable and convenient for the purposes required, in arranging the parts so as to produce the most stately and ornamental effect consistent with its uses, and in applying to it such ornament as should express and harmonise with the construction, and be appropriate to the purposes of the building; while at the same time the architects took care that the ornament should be the most elegant in itself which it was in their power to design.

Following this system, not only the Egyptian, the Greek, and the Gothic architects, but even the indolent and half-civilized inhabitants of India, the stolid Tartars of Thibet and China, and the savage Mexicans, succeeded in erecting great and beautiful buildings. No race, however rude or remote, has failed, when working on this system, to produce buildings which are admired by all who behold them, and are well worthy of the most attentive consideration. Indeed it is almost impossible to indicate one single building in any part of the world, designed during the prevalence of this true form of art, which was not thought beautiful, not alone by those who erected it, or which does not remain a permanent object of admiration and of study for all future ages.

The result of the other system is widely different from this. It has now been practised in Europe for more than three centuries, and by people who have more knowledge of architectural forms, more constructive skill, and more power of combining science and art in effecting a great object, than any people who ever existed before. Notwithstanding this, from the building of St. Peter's at Rome to that of our own Parliament Houses, not one building has been produced that is admitted to be entirely satisfactory, or which permanently retains a hold on general admiration. Many are large and stately to an extent almost unknown before, and many are ornamented with a profuseness of which no previous examples exist; but with all this, though they conform with the passing fashions of the day, they soon become antiquated and out of date, and men wonder how such a style could ever have been thought beautiful, just as we wonder how any one could have admired the female costumes of the last century which captivated the hearts of our grandfathers.

It does not require us to go very deeply into the philosophy of the subject to find out why this should be the case; the fact simply being that no sham was ever permanently successful, either in morals or in art, and no falsehood ever remained long without being found out, or which, when detected, inevitably did not cease to please. It is literally impossible that we should reproduce either the circumstances or the feelings which gave rise to classical art, and made it a reality; and though Gothic art was a thing of our country and of our own race, it belongs to a state of society so totally different from anything that now exists, that any attempt at reproduction now must at best be a masquerade, and never can be a real or an earnest form of art. The designers of the Eglinton tournament carried the system to a perfectly legitimate conclusion when they sought to reproduce the costumes and warlike exercises of our ancestors: and the pre-Raphaelite painters were equally justified in attempting to do in painting that which was done every day in architecture. Both attempts failed signally, because we had progressed in the arts of war and painting, and could easily detect the absurdity of these practices. It is in architecture alone of all the arts that the false system remains, and we do not yet perceive the impossibility of its leading to any satisfactory result.

Bearing all this in mind, let us try if we can come to a clearer definition of what this art really is, and in what its merits consist. Let us suppose the Diagram (woodcut No. 1.) to represent a cotton-factory, a warehouse, or any very commonplace utilitarian building. The first division, A, is not only the most prosaic form of building, but is bad building, as no attempt is made to strengthen the parts requiring it, and no more thought is bestowed upon it than if it were a garden wall or a street pavement. The second division, B, is better: the arching of the upper windows binds together the weakest parts, and gives

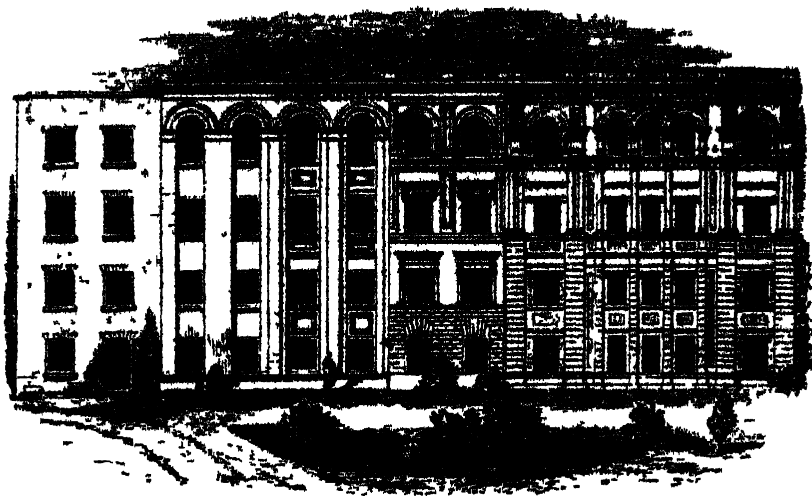


Diagram No. 1

mass where it is most needed to resist the pressure or thrust of the roof, and the carrying down the piers between the windows gives strength where wanted. In this stage the building belongs to civil engineering, which may be defined as the art of disposing the most suitable materials in the most economical but scientific manner to attain a given utilitarian end. In the third division, C, this is carried still farther, the materials are better disposed than in the last example, and even without the slight amount of ornament applied, it is a better example of engineering. The ornament is not more than would be considered in some states of society indispensable for even the most utilitarian buildings. The cornice may be said to be required to protect the wall from wet; the consoles to support it; and the mouldings at the springing of the arch may be insertions required for stability. In the present day, however, even this slight amount of ornament is almost sufficient to take it out of the domain of useful art into that of architecture. The fourth division, D, is certainly within the limits of the province of architecture; and though it may be bad art, still the amount of ornament applied, all other things remaining the same, entitles this division to rank as a work of the fine art, architecture. The fifth division, E, carries the advance still farther. In this instance not only is a greater amount of ornament applied, but the parts are so disposed as in themselves to produce a more agreeable effect; and although the height of the floors remains the same, and the amount of light introduced very nearly so, still the slight grouping of the parts is such as to produce a better class of architecture than could be done by the mere application of any amount of ornament.

If it is admitted that the last division in the diagram is an object

account of the largeness of the blocks that can be obtained, and because it easily receives a polish sufficient for external purposes. Bricks are excellent for their cheapness and the facility with which they can be used, and they may also be moulded into forms of great elegance, so that beauty may be easily attained; but sublimity is nearly impossible in brickwork, without at least such dimensions as have rarely been accomplished by man. The smallness of the material is such a manifest incongruity with the largeness of the parts, that even the Romans though they tried hard could never quite overcome the difficulty.

Plaster is another artificial material. Except in monumental erections it is superior to stone for internal purposes, and always better than brick from the uniformity and smoothness of its surface, the facility with which it is moulded, and its capability of receiving painted or other decorations to any extent.

Wood should be used externally only on the smallest and least monumental class of buildings, and even internally is generally inferior to plaster. It is dark in colour, liable to warp and split, and combustible, which are all serious objections to its use, except for flooring, doors, and such purposes as it is now generally applied to.

Cast iron is another material rarely brought into use, though more precious than any of those above enumerated, and possessing more strength, though probably less durability. Where lightness combined with strength is required, it is invaluable, but though it can be moulded into any form of beauty that may be designed, it has hardly yet ever been used so as to allow of its architectural qualities being appreciated.

All these materials are nearly equally good when used honestly each for the purpose for which it is best adapted; they all become bad either when used for a purpose for which they are not appropriate, or when one material is used either in the place of, or to imitate another. Grandeur and sublimity can only be reached by the more durable and more massive class of materials, but beauty and elegance are attainable in all, and the range of architectural design is so extensive that it is absurd to limit it to one class either of natural or of artificial materials, or to attempt to proscribe the use of some, and to insist on that of others, for purposes to which they are manifestly inapplicable.

V.—CONSTRUCTION.

Construction has been shown to be the chief aim and object of the engineer; with him it is all in all, and to construct scientifically and at the same time economically is the beginning and end of his endeavours. It is far otherwise with the architect. Construction ought to be his handmaid, useful to assist him in carrying out his design,

but never his mistress, controlling him in the execution of that which he would otherwise think expedient. An architect ought always to allow himself such a margin of strength that he may disregard or play with his construction, and in nine cases out of ten the money spent in obtaining this solidity will be more effective architecturally than twice the amount expended on ornament, however elegant or appropriate that may be.

So convinced were the Egyptians and Greeks of this principle, that they never used any other constructive expedient than a perpendicular wall or prop, supporting a horizontal beam; and half the satisfactory effect of their buildings arises from their adhering to this simple though expensive mode of construction. They were perfectly acquainted with the use of the arch and its properties, but they knew that its employment would introduce complexity and confusion into their designs, and therefore they wisely rejected it. Even to the present day the Hindus refuse to use the arch, though it has long been employed in their country by the Mahometans. As they quaintly express it, "An arch never sleeps," and it is true that by its thrust and pressure it is always tending to tear a building to pieces, in spite of all counterpoises, whenever the smallest damage is done, it hastens the ruin of a building, which, if more simply constructed, might last for ages.

The Romans were the first who introduced a more complicated style. They wanted larger and more complex buildings than had been before required, and they employed brick to a great extent even in their temples and most monumental buildings. They obtained both space and variety by these means, with comparatively little trouble or expense; but we miss in all their works that repose and harmony which is the great charm that pervades the buildings of their predecessors.

The Gothic architects went even beyond the Romans in this respect. They prided themselves on their constructive skill, and paraded it on all occasions, and often to an extent very destructive of true architectural design. The lower storey of a French cathedral is generally very satisfactory; the walls are thick and solid, and the buttresses, when not choked up with chapels, just sufficient for shadow and relief; but the architects of that country were seized with a mania for clerestories of gigantic height, which should appear internally mere walls of painted glass divided by mullions. This could only be effected either by encumbering the floor of the church with piers of inconvenient thickness or by a system of buttressing outside. The latter was the expedient adopted; but notwithstanding the ingenuity with which it was carried out, and the elegance of many of the forms and ornaments used, it was singularly destructive of true architectural effect. It not only produces confusion of outline and a total want of

PART II.

TECHNICAL PRINCIPLES OF ARCHITECTURE.

I.

Although, for the reasons just given, it is intended to follow the historical mode of investigation almost exclusively in the following work, still a brief abstract of the technical principles of the art may render what follows more clear. It may materially assist the student, in judging of the various examples submitted to his criticism, if the elements of the art and the leading principles of design are first collected together and stated, though it must be as briefly as is consistent with clearness.

II.—MASS.

The first and most obvious element of architectural grandeur is size—a large edifice being always more imposing than a small one; and when the art displayed in two buildings is equal, their effect is almost in the direct ratio of their dimensions. In other words, if one temple or church is twice or three times as large as another, it is twice or three times as grand or as effective. The Temple of Theseus differs very little, except in dimensions, from the Parthenon, and, except in that respect, hardly differed at all from the Temple of Jupiter at Elis, but because of its smaller size it must rank lower than the greater examples. In our own country many of our smaller abbeys or parish churches display as great beauty of design or detail as our noblest cathedrals, but, from their dimensions alone, they are insignificant in comparison, and the traveller passes them by, while he stands awe-struck before the portals or under the vault of the larger edifices.

The pyramids of Egypt, the topes of the Buddhists, the mounds of the Etruscans, depend almost wholly for their effect on their dimensions. The Romans understood to perfection the value of this element, and used it in its most unsophisticated simplicity to obtain the effect they desired. In the middle ages the architects not only aspired to the erection of colossal edifices, but they learnt how they might greatly increase the apparent dimensions of a building by a scientific disposition of the parts and a skilful arrangement of ornament, thereby making it look very much larger than it really was. It is in fact the most obvious and most certain, though it must be confessed perhaps the most vulgar, means of obtaining architectural grandeur; but a true and

perfect example can never be produced by dependence on this alone, and it is only when combined with beauty of proportion and elegance of ornament that perfection in architectural art is attained.

III.—Stability.

Next to size the most important element is stability. By this is meant, not merely the strength required to support the roof or to resist the various thrusts and pressures, but that excess of strength over mere mechanical requirement which is necessary thoroughly to satisfy the mind, and to give to the building a monumental character, with an appearance that it could resist the shocks of time or the violence of man for ages yet to come.

No people understood the value of this so well as the Egyptians. The form of the Pyramids is designed wholly with reference to stability, and even the Hypostyle Hall at Karnac excites admiration far more by its eternity and strength than by any other element of design. All utilitarian exigencies and many other obvious means of effect are sacrificed to this, and with such success that after 3000 years still enough remains to excite the admiration which even the most unpoetical spectators cannot withhold from its beauties.

In a more refined style much of the beauty of the Parthenon arises from this cause. The area of each of the pillars of the Pantheon at Rome is under 20 ft., that of those of the Parthenon is over 33 ft. and, considering how much taller the former are than the latter, it may be said that the pillars at Athens are twice as massive as those of the Roman temple, yet the latter have sufficed not only for the mechanical, but for many points of artistic stability; but the strength and solidity of the portico of the Parthenon, without taking into consideration its other points of superiority, must always render it more beautiful than the other.

The massiveness which the Normans and other early Gothic builders imparted to their edifices arose more from clumsiness and want of constructive skill than from design; but, though arising from so ignoble a cause, its effect is always grand, and the rude Norman nave often surpasses in grandeur the airy and elegant choir which was afterwards added to it. In our own country no building is more entirely satisfactory than the nave at Winchester, where the width of the pillars exceeds that of the aisles, and the whole is Norman in outline, though Gothic in detail. On the other hand, no building of its dimensions and beauty of detail can well be so unsatisfactory as the choir at Beauvais. Though it has stood the test of centuries, it looks so frail, requires so many props to keep it up, and is so evidently an overstrained exercise of mechanical cleverness, that though it may excite wonder as an architectural *tour de force*, it never can satisfy the mind

of the true artist, or please to the same extent as less ambitious examples.

Even when we descend to the lowest walks of architecture we find this principle prevailing. It would require an immense amount of design and good taste to make the thin walls and thinner roof of a brick and slated cottage look as picturesque or so well as one built of rubble-stone, or even with mud walls, and a thatched roof. the thickness and apparent solidity of the one will always be more satisfactory than the other. Here, as in most cases, necessity controls the architect but when fettered by no utilitarian exigencies, there is no safer or readier means of obtaining an effect than this, and when effect alone is sought it is almost impossible for an architect to err in giving too much solidity to his building. Size and stability are alone sufficient to produce grandeur in architectural design, and, where sublimity is aimed at, they are the two elements most essential to its production, and are indeed the two without which it cannot possibly be attained.

IV.—MATERIALS.

Another very obvious mode of obtaining architectural effect is by the largeness or costliness of the materials employed. A terrace, or even a wall, if composed of large stones, is in itself an object of considerable grandeur, while one of the same lineal dimensions and of the same design if composed of brick or rubble, may appear a very contemptible object

Like all the more obvious means of architectural effect, the Egyptians seized on this and carried it to its utmost legitimate extent. All their buildings, as well as their colossi and obelisks, owe much of their grandeur to the magnitude of the materials employed in their construction. The works called Cyclopean found in Italy and Greece have no other element of grandeur than the size of the stones or rather masses of rock which the builders of that age were in the habit of using. In Jerusalem nothing was so much insisted upon by the old writers, or is so much admired now, as the largeness of the stones employed in the building of the Temple and its substructions

We can well believe how much value was attached to this when we find that in the neighbouring city of Baalbec stones were used of between 60 and 70 ft. in length, weighing as much as the tubes of the Britannia Bridge, for the mere bonding of a terrace wall. Even in a more refined style of architecture, a pillar, the shaft of which is of a single stone, or a lintel or architrave of one block, is always a grander and more beautiful object than if composed of a number of smaller parts. Among modern buildings, the poverty-stricken design of the church of St. Isaac de St. Petersburg is redeemed by the grandeur of its monolithic columns, whilst the beautiful design of the Madeleine

at Paris is destroyed by the smallness of the materials in which it is expressed. It is easy to see that this arises from the same feeling to which massiveness and stability address themselves. It is the expression of giant power and the apparent eternity of duration which they convey; and in whatever form that may be presented to the human mind, it always produces a sentiment tending towards sublimity, which is the highest effect at which architecture or any other art can aim.

The Gothic architects ignored this element of grandeur altogether, and sought to replace it by the display of constructive skill in the employment of the smaller materials they used, but it is extremely questionable whether in so doing they did not miss one of the most obvious and most important elements of architectural design.

Besides this largeness there is another element in the mere material which is a cause of architectural effect, it is that of value, though it is by no means so easy to point out why this should be the case. Still we all admire an ornament of pure gold more than one that is only silver gilt, though few can detect the difference. Persons will travel hundreds of miles to see a great diamond or wonderful pearl, who would not go as many yards to see paste models of them, though if the two were laid together on the table very few indeed could distinguish the real from the counterfeit.

From something of the same feeling we admire a marble building more than one of stone, though the colour of the latter may be really more beautiful and the material at least as durable. In the same manner a stone edifice is preferred to one of brick, and brick to wood and plaster; but even these conditions may be reversed by the mere question of value. If a brick and a stone edifice stand close together, the design of both being equally appropriate to the material employed, but if the bricks are so beautifully moulded, or made of such precious clay, or so carefully laid, that the brick edifice cost twice as much as the other, our judgment would be reversed, and we should look with more respect and admiration on the artificial than on the natural material. From the same reason many elaborately carved wooden buildings, notwithstanding the smallness of their parts and their perishable nature, are more to be admired than larger and more monumental structures, and this merely in consequence of the evidence of labour and consequent cost that have been bestowed upon them.

Irrespective of these considerations, many building materials are invaluable from their own intrinsic merits. Granite is one of the best known from its hardness and durability, marble from the exquisite polish it takes, and for its colour, which for internal decoration is a property that can hardly be over-estimated. Stone is valuable on

of architecture, which the first is not, it follows from this analysis that architecture is nothing more or less than the art of *ornamental and ornamented construction.*

Taking, for instance, the Parthenon, to illustrate this principle farther. The proportions of length to breadth, and of height to both these, are instances of carefully-studied ornamental construction: and still more so is the arrangement of the porticos and the disposition of the peristyle. If all the pillars were plain square piers, and all the mouldings square and flat, still the Parthenon could not fail, from the mere disposition of its parts, to be a pleasing and imposing building. So it is with a Gothic cathedral. The proportion of length to breadth, the projection of the transepts, the different height of the central and side aisles, the disposition and proportion of the towers, are all instances of ornamental construction, and beautiful even if without ornament. Many of the older abbeys, especially those of the Cistercians, are as devoid of ornament as a modern barn; but from the mere disposition of their parts they are always pleasing, and if large, are imposing objects of architecture. Stonehenge is an instance of ornamental construction wholly without ornament, yet it is almost as imposing an architectural object as any of the same dimensions in any part of the world. It is, however, when ornament is added to this, and when that ornament is elegant itself, and appropriate to the construction and to the purposes of the building, that the temple or the cathedral ranks among the highest objects of the art, and becomes one of the noblest works of man.

Even without ornamental construction, a building may, by mere dint of ornament, become an architectural object, though it is far more difficult to attain good architecture by this means, and in true styles it has seldom been attempted. Still such a building as the town-hall at Louvain, which if stripped of its ornaments would be little better than a factory, by richness and appropriateness of ornament alone has become a very pleasing specimen of the art. In modern times it is too much the fashion to attempt to produce architectural effects not only without attending to ornamental construction, but often in defiance of, and in concealing that which exists. When this is done, the result must be bad art, but nevertheless it is architecture, however execrable it may be.

If these premises are correct, the art of the builder consists in merely heaping materials together, so as to attain the desired end in the speediest and readiest fashion. The art of the civil or military engineer consists in selecting the best and most appropriate materials for the object he has in view, and using these in the most scientific manner, so as to ensure an economical but satisfactory result. Where the engineer leaves off, the art of the architect begins. His object is to arrange the materials of the engineer, not so much with regard to

economical as to artistic effects, and by light and shade, and outline, to produce a form that in itself shall be permanently beautiful. He then adds ornament, which by its meaning doubles the effect of the disposition he has just made, and by its elegance throws a charm over the whole composition.

Viewed in this light, it is evident that there are no objects that are usually delegated to the civil engineer which may not be brought within the province of the architect. A bridge, an aqueduct, the embankment of a lake, or the pier of a harbour, are all as legitimate subjects for architectural ornament as a temple or a palace. They were all so treated by the Romans, and in the middle ages, and are so treated up to the present day in the remote parts of India, and wherever true art prevails.

It is not essential that the engineer should know anything of architecture, though it is certainly desirable he should do so; but, on the other hand, it is indispensably necessary that the architect should understand construction. Without that knowledge he cannot design; but it would be well if, in most instances, he could delegate the mechanical part of his task to the engineer, and so restrict himself entirely to the artistic arrangement and the ornamentation of his design. This division of labour is essential to success, and was always practised where art was a reality; and no great work should be undertaken without the union of the two. Perfect artistic and perfect mechanical skill can hardly be found combined in one person, but it is only by their joint assistance that a great work of architecture can be produced. A building may be said to be an object of architectural art in the proportion in which the artistic or ornamental purposes are allowed to prevail over the mechanical; and an object of engineering skill, where the utilitarian exigencies of the design are allowed to supersede the artistic. But it is nowhere possible to draw the line sharply between the two, nor is it desirable to do so. Architecture can never descend too low, nor need it ever be afraid of ornamenting too mean objects; while, on the other hand, good engineering is absolutely indispensable to a satisfactory architectural effect of any class. The one is the prose, the other is the poetry of the art of building.

repose, but it is eminently suggestive of weakness, and one cannot help feeling that if one of these props were removed, the whole would tumble down like a house of cards.

This was hardly ever the case in England: the less ambitious dimensions employed in this country enabled the architects to dispense in a great measure with those adjuncts, and when flying buttresses are used, they look more as if employed to suggest the idea of perfect security than as necessary to stability. Owing to this cause the French have never been able to construct a satisfactory vault. in consequence of the weakness of their supports they were forced to stilt, twist, and dome them to a most unpleasing extent, and to attend to constructive instead of artistic necessities. With the English architects this never was the case; they were always able to design their vaults in such forms as they thought would be most beautiful artistically and, owing to the greater solidity of their supports, to carry them out as at first designed.[1]

It was left for the Germans to carry this system to its acme of absurdity. Half the merit of the old Round arched Gothic cathedrals on the Rhine consists in their solidity and the repose they display in every part. Their walls and other essential parts are always in themselves sufficient to support the roofs and vaults, and no constructive contrivance is seen anywhere, but when the Germans adopted the pointed style their builders - they cannot be called architects - seemed to think that the whole art consisted in supporting the widest possible vaults on the thinnest possible pillars, and in constructing the tallest windows with the most attenuated mullions. The consequence is, that though their constructive skill still excites the wonder of the mason or the engineer, the artist or the architect turns from the cold vaults and lean piers of their later cathedrals with a painful feeling of unsatisfied expectation, and wonders how such dimensions and such details should produce a result so utterly unsatisfactory.

So many circumstances require to be taken into consideration, that it is impossible to prescribe any general rules in such a subject as this, but the following table will explain to a certain extent the ratio of the area to the points of support in sixteen of the principal buildings of the world.[2] As far as it goes, it tends to prove that the satisfactory architectural effect of a building is nearly in the inverse ratio to the mechanical cleverness displayed in its construction.

[1] It may be suggested that the glory of a French clerestory filled with stained glass made up for all these defects, and it may be true that it did so; but in that case the architecture was sacrificed to the sister art of painting, and is not the less bad in itself because it enabled that art to display its charms with so much brilliancy.

[2] The numbers in the table must be taken only as approximative, except the last four, which are borrowed from Gwilt's 'Public Buildings of London.'

	Area	Solids.	Ratio in Decimals.	Nearest Vulgar Fractions.
	Feet.	Feet.		
Hypostyle Hall, Karnac	94,437	46,538	·496	One-half.
Spires Cathedral	56,737	12,076	·216	One-fifth.
Bourges Cathedral	61,590	11,091	·181	One-sixth.
Parthenon, Athens	23,140	4,430	·148	One-seventh.
Chartres Cathedral	68,261	8,886	·130	One-eighth.
Salisbury Cathedral......	55,853	7,012	·125	One-eighth.
Paris, Notre Dame	64,108	7,852	·122	One-eighth.
Cologne Cathedral	91,464	9,534	·104	One-tenth.
Milan Cathedral	108,277	11,601	·107	One-tenth.
York Cathedral	72,860	7,376	·101	One-tenth.
St. Ouen, Rouen	47,107	4,637	·097	One-tenth.
Temple of Peace	68,000	6,928	·101	One-tenth.
St Peter's, Rome.........	227,000	59,308	·261	One-fourth.
Sta. Maria, Florence ...	84,802	17,056	·201	One-fifth.
St. Paul's, London	84,311	14,311	·171	One-sixth.
Ste. Geneviève, Paris...	60,287	9,269	·154	One-sixth.

At the head of the list stands the Hypostyle Hall, and next to it practically is the Parthenon, which being the only wooden roofed building in the list, its ratio of support in proportion to the work required is nearly as great as that of the temple at Karnac. Spires only wants better details to be one of the grandest edifices in Europe, and Bourges, Paris, Chartres, and Salisbury are among the most satisfactory Gothic cathedrals we possess. St. Ouen, notwithstanding all its beauty of detail and design, fails in this one point, and is certainly deficient in solidity. Cologne and Milan would both be very much improved by greater massiveness. at York the lightness of the supports is carried so far that it never can be completed with the vaulted roof originally designed, for the nave at least; and the Temple of Peace is so clever a piece of engineering, that it must always have been a failure as an architectural design.

The last four buildings have quite sufficient strength for architectural effect, but the value of this is lost from concealed construction, and because the supports are generally grouped into a few great masses, the dimensions of which cannot be estimated by the eye. A Gothic architect would have divided these masses into twice or three times the number of the piers used in these churches, and by employing ornament designed to display and accentuate the construction, would have rendered these buildings far more satisfactory than they are.

In this respect the great art of the architect consists in obtaining

the greatest possible amount of unencumbered space internally, consistent in the first place with the requisite amount of permanent mechanical stability, and next with such an appearance of superfluity of strength as shall satisfy the mind that the building is perfectly secure and calculated to last for ages.

VI.- FORMS.

It is extremely difficult to lay down any general rules as to the forms best adapted to architectural purposes, as the value of a form in architecture depends wholly on the position in which it is placed, and the use to which it is applied. There is in consequence no prescribed form however ugly it may appear at present, that may not one day be found to be the very best for a given purpose, and in like manner none of those most admired which may not become absolutely offensive when used in a manner for which they are unsuited. In itself no simple form seems to have any inherent value of its own, and it is only by combination one with another that they become effective. If, for instance, we take a series of twenty or thirty figures, placing a cube at one end as the most solid of angular, and a sphere at the other as the most perfect of round shapes, it would be easy to cut off the angles of the cube in successive gradations till it became a polygon of so many sides as to be nearly curvilinear. On the other hand by modifying the sphere through all the gradations of conic sections, it might meet the other series in the centre without there being any abrupt distinction between them. Such a series might be compared to the notes of a piano. We cannot say that any of the base or treble notes is in itself more beautiful than the others. It is only by a combination of several notes that harmony is produced, and gentle or brilliant melodies by their fading into one another, or by strongly marked contrasts. So it is with forms. The square and angular are expressive of strength and power; curves of softness and elegance; and beauty is produced by effective combination of the right lined with the curvilinear. It is always thus in nature. Rocks and all the harder substances are rough and angular, and marked by strong contrasts and deep lines. Even among trees the oak is rugged, and its branches are at right angles to its stem, or to one another. The lines of the willow are rounded, and flowing. The forms of children and women are round and full, and free from violent contrasts, those of men are abrupt, hard, and angular in proportion to the vigour and strength of their frame.

In consequence of these properties, as a general rule the square or angular parts ought always to be placed below, where strength is wanted, and the rounded above. If, for instance, a tower is to be built, the lower storey should not only be square, but should be marked by

buttresses or other strong lines, and the masonry rusticated, so as to convey even a greater appearance of strength. Above this, if the square form is still retained, it may be with more elegance and less accentuation. The form may then change to an octagon, that to a polygon of sixteen sides, and then be surmounted by a circular form of any sort. These conditions are not absolute, but the reverse arrangement would be manifestly absurd. A tower with a circular base and a square upper storey is what almost no art could render tolerable, while the other pleases by its innate fitness without any extraordinary effort of design.

On the other hand, round pillars are more pleasing as supports for a square architrave, not so much from any inherent fitness for the purpose as from the effect of contrast, and flat friezes are preferable to curved ones of the late Roman styles from the same cause. The angular mouldings introduced among the circular shafts of a Gothic coupled pillar add immensely to the brilliancy of effect. Where everything is square and rugged, as in a Druidical trilithon, the effect may be sublime, but it cannot be elegant; where everything is rounded, as in the Choragic Monument of Lysicrates, the perfection of elegance may be attained, but never sublimity. Perfection, as usual, lies between these extremes.

VII. Proportion

The properties above enumerated may be characterised as the mechanical principles of design. Size, stability, construction, material, and many such are elements at the command of the engineer or mason as well as of the architect, and a building remarkable for these properties only cannot be said to rise above the lowest grade of architectural excellence. They are invaluable adjuncts in the hands of the true artist, but ought never to be the principal elements of design.

After these, the two most important resources at the command of the architect are proportion and ornament; the former enabling him to construct ornamentally, the latter to ornament his construction; both require knowledge and thought, and can only be properly applied by one thoroughly imbued with the true principles of architectural design.

As proportion, to be good, must be modified by every varying exigence of a design, it is of course impossible to lay down any general rules which shall hold good in all cases; but a few of its principles are obvious enough, and can be defined so as to enable us to judge how far they have been successfully carried out in the various buildings enumerated in the following pages.

To take first the simplest form of the proposition, let us suppose a room built, which shall be an exact cube—of say 20 feet each way—

such a proportion must be bad and inartistic; and besides, the height is too great for the other dimensions, apparently because it is impossible to get far enough away to embrace the whole wall at one view, or to see the roof-springs without throwing the head back and looking upwards. If the height were exaggerated to 30 or 40 feet, the disproportion would be so striking, that no art could render it agreeable. As a general rule, a room square in plan is never pleasing. It is always better that one side should be longer than the other, so as to give a little variety to the design. Once and a half the width has often been recommended, and with every increase of length an increase of height is not only allowable, but indispensable. Some such rule as the following seems to meet most cases:—"The height of a room ought to be equal to half its width, plus the square root of its length." Thus a room 20 feet square ought to be between 14 and 15 feet high; if its length be increased to 40 feet, its height must be at least 16½; if 100, certainly not less than 20. If we proceed further, and make the height actually exceed the width, the effect is that of making it look narrow. As a general rule, and especially in all extreme cases, by adding to one dimension, we take away in appearance from the others. Thus, if we take a room 20 feet wide, and 30 or 40 feet in height, we make it narrow; if 40 wide and 20 high, we make a low room. By increasing the length, we diminish the other two dimensions.

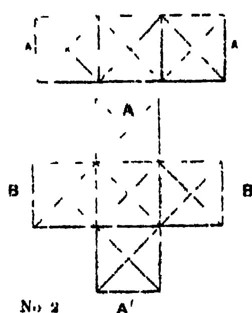
This, however, is merely speaking of plain rooms with plain walls, and an architect may be forced to construct rooms of all sorts of unpleasing dimensions, but it is here that his art comes to his aid, and he must be very little of an artist if he cannot conceal, even when unable entirely to counteract, the defects of his dimensions. A room, for instance, that is a perfect cube of 20 feet may be made to look as low as one only 15 feet high, by using a strongly marked horizontal decoration, by breaking the wall into different heights, by marking strongly the horizontal proportions, and obliterating as far as possible all vertical lines. The reverse process will make a room only 10 feet high look as lofty as one of 15.

Even the same wall-paper (if of strongly marked lines), if pasted on the sides of two rooms exactly similar in dimensions, but with the lines vertical in the one case, in the other horizontal, will alter the apparent dimensions of them by several feet. If a room is too high, it is easy to correct this by carrying a bold cornice to the height required, and stopping there the vertical lines of the wall, and above this coving the roof, or using some device which shall mark a distinction from the walls, and the defect may become a beauty. In like manner, if a room is too long for its other dimensions, this is easily remedied either by breaks in the walls where these can be obtained, or by screens of columns across its width, or by only breaking the

height of the roof. Anything which will divide the length into compartments will effect this. The width, if in excess, is easily remedied by dividing it, as the Gothic architects did, into aisles. Thus a room 50 feet wide and 30 high, may easily be restored to proportion by cutting off 10 or 12 feet on each side, and lowering the roofs of the side compartments to say 20 feet. If great stability is not required, this can be done without encumbering the floor with many points of support. The greater the number used the more easily the effect is obtained, but it can be done almost without them.

Externally it is easier to remedy defects of proportion than it is internally. It is easier than on the inside to increase the apparent height by strongly marked vertical lines, or to bring it down by the employment of an horizontal decoration. Turning, for instance, to the diagram No. 1: if the two divisions C and D were on opposite sides of a street, and not in immediate juxtaposition, it would be difficult to make any one believe that C was not taller than D, and that the windows in the latter were not farther apart and more squat than those in the first division; and the effect might easily be increased.

If the length of a building is too great, this is easily remedied by projections, or by breaking up the length into divisions. Thus, A A is a long building, but B B is a square one, or practically (owing to the perspective) less than a square in length, in any direction at right angles to the line of vision; or, in other words, to a spectator at A′ the building would look as if shorter in the direction of B B than in that of A A, owing to the largeness and importance of the part nearest the eye. If 100 feet in length by 50 feet high is a pleasing dimension for a certain design, and it is required that the building should be 500 feet long, it is only necessary to break it into five parts, and throw three back and two forward, or the contrary, and the proportion becomes as before.



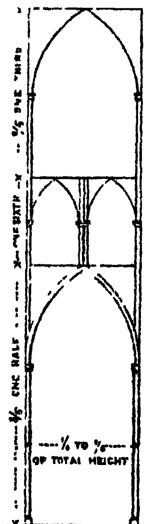
No. 2

The Egyptians hardly studied the science of proportion at all: they gained their effects by simpler and more obvious means. The Greeks were masters in this as in everything else, but they used the resources of the art with extreme sobriety—externally at least—dreading to disturb that simplicity which is so essential to sublimity in architecture. But internally, where sublimity was not attainable with the dimensions they employed, they divided the cells of their temples into three aisles, and the height into two, by placing two ranges of columns one above the other. By these means they were enabled to use such a number of small parts as to increase the apparent size most considerably, and at the same time to give greater

apparent magnitude to the statue, which was the principal object for which the temple was erected.

The Romans do not seem to have troubled themselves with the science of proportion; but during the middle ages we find, from first to last, the most earnest attention paid to it. Half the beauty of the buildings of that age is owing to the successful results to which the architects carried their experiments.

The first great invention of the Gothic architects (though of Greek origin) was that of dividing the breadth of the building into three aisles, and making the central one higher and wider than those on each side. By this means height and length were obtained at the expense of width: this latter, however, is never a valuable property artistically, though it may be indispensable for the utilitarian exigences of the building. They next sought to increase still further the height of the central aisle by dividing its sides into three equal portions which by contrast added very much to the effect; but the monotony of this arrangement was soon apparent: besides, it was perceived that the side aisles were so low as not to come into direct comparison with the central nave. To remedy this they gradually increased its dimensions and at last hit on something very like the following proportions. They made the height of the side aisle half that of the central (the width being also in the same proportion); the remaining portions they divided into three, making the triforium one third, the clerestory two-thirds of the whole. Thus the three divisions are in the proportion of 1, 2, and 3, each giving value to the other, and the whole adding very considerably to all the apparent dimensions of the interior. It would have been easy to have carried the system further and by increasing the number of the pillars longitudinally, and the number of divisions vertically, to have added considerably to even this appearance of size; but it would then have been at the expense of simplicity and grandeur; and though the building might have looked larger, the beauty of the design would have been destroyed.



No 3.

One of the most striking exemplifications of the perfection of the Gothic architects in this department of their art is shown in their employment of towers and spires. As a general rule, placing a tall building in juxtaposition with a low one exaggerates the height of the one and the lowness of the other; and as it was by no means the object of the architects to sacrifice their churches for their towers, it required all their art to raise noble spires without doing this. In the best designs they effected it by bold buttresses below, and the moment the tower got free of the building, by changing it to an octa-

gon, and cutting it up by pinnacles, and lastly by changing its form into that of a spire, using generally smaller parts than are found in the church. By these devices they prevented the spire from competing in any way with the church. On the contrary, a spire or group of spires gave dignity and height to the whole design, without deducting from any of its dimensions.

The city of Paris contains an instructive exemplification of these doctrines—the façade of the cathedral of Notre Dame (exclusive of the upper storey of the towers) and the Arc de l'Etoile, being two buildings of exactly the same dimensions; yet any one who is not aware of this fact would certainly estimate the dimensions of the cathedral as at least a third, if not a half, in excess of the other. It may be said that the arch gains in sublimity and grandeur what it loses in apparent dimensions by the simplicity of its parts. The façade, though far from one of the best in France, is by no means deficient in grandeur, and had it been as free from the trammels of utilitarianism as the arch, might easily have been made as simple and as grand, without losing its apparent size. In the other case, by employing in the arch the principles which the Gothic architects elaborated with such pains, the apparent dimensions might have been increased without detracting from its solidity, and it might thus have been rendered one of the sublimest buildings in the world.

St. Peter's at Rome is an example of a total neglect of these principles. Its great nave is divided into only four bays, and the proportions and ornaments of these, borrowed generally from external architecture, are so gigantic that no one can realize the true dimensions of the church but by the study of the plan, and it is not too much to assert, that had that cathedral been built in the Gothic style, during the 13th or 14th century, and of the same dimensions, it would have appeared as if from one third to one half larger, and have been the most sublime, whereas it is now only the largest temple ever erected.

It would be easy to multiply examples to show to what perfection the science of proportion was carried during the existence of the true styles of architecture, and how satisfactory the result is, even upon those who are not aware of the cause; and on the other hand, how miserable are the failures that result either from the ignorance or neglect of its rules. Enough, it is hoped, has been said to show that not only are the apparent proportions of a building very much under the control of an architect independent of its lineal dimensions, but also that he has it in his power so to proportion every part as to give value to all those around it, thus producing that harmony which in architecture, as well as in music or in painting, is the very essence of a true or satisfactory utterance.

VIII.—CARVED ORNAMENT.

Architectural ornament is of two kinds, *constructive* and *decorative*. By the former is meant all those contrivances, such as capitals, brackets, vaulting shafts, and the like, which serve to explain or give expression to the construction; by the latter, such as mouldings, frets, foliage, &c., which give grace and life either to the actual constructive forms, or to the constructive decoration.

In mere building or engineering, the construction being all in all, it is left to tell its own tale in its own prosaic nakedness; but in true architecture it is always subordinate, and possessing an excess of strength it need not show itself unless desired; but even in an artistic point of view it always is expedient to express it. The vault, for instance, of a Gothic cathedral might just as easily spring from a bracket or a corbel as from a shaft, and in early experiments this was often tried; but the effect was unsatisfactory, and a vaulting shaft was carried down to the capital of the pillar, and afterwards to the floor: by this means the eye was satisfied, the thin reed-like shafts being sufficient to explain that the vault rested on the solid ground, and an apparent propriety and stability were given to the whole. These shafts not being necessary constructively, the artist could make them of any form or size he thought most proper, and consequently, instead of one he generally used three small shafts tied together at various intervals. Afterwards merely a group of the graceful moulding was employed, which satisfied not only the exigencies of ornamental construction, but became a real and essential decorative feature of the building.

In like manner it was good architecture to use flying buttresses, even where they were not essential to stability. They explained externally that the building was vaulted, and that its thrusts were abutted and stability secured. The mistake in their employment was where they became so essential to security, that the constructive necessities controlled the artistic propriety of the design, and the architect found himself compelled to employ either a greater number, or buttresses of greater strength than he would have desired had he been able to dispense with them.

The architecture of the Greeks was so simple, that they required few artifices to explain their construction; but in their triglyphs, their mutules, the form of their cornices and other devices, they took pains to explain, not only that these parts had originally been of wood, but that the temple still retained its wooden roof. Had they ever adopted a vault, they would have employed a totally different system of decoration. Having no constructive use whatever, these parts were wholly under the control of the architects, and they consequently became the beautiful things we now so much admire.

With their more complicated style the Romans introduced many

new modes of constructive decoration. They were the first to employ vaulting shafts. In all the great halls of their Baths, or of their vaulted Basilicas, they applied a Corinthian pillar as a vaulting shaft to the front of the pier from which the arch appears to spring, though the latter really supported the vault. All the pillars have now been removed, but without at all interfering with the stability of the vault; they were mere decorative features to explain the construction, but indispensable for that purpose. The Romans also suggested most of the other decorative inventions of the middle ages, but their architecture never reached beyond the stage of transition. It was left for the Gothic architects freely to elaborate this mode of architectural effect, and they carried it to an extent never dreamt of before: but it is to this that their buildings owe at least half the beauty they possess.

The same system of course applies to dwelling-houses, and to the meanest objects of architectural art. The string-course that marks externally the floor line of the different stories is as legitimate and indispensable an ornament as a vaulting shaft, and it would also be well that the windows should be grouped so as to indicate the size of the rooms, and at least a plain space left where a partition wall abuts, or better still a pilaster or buttress, or line of some sort, ought to mark externally that feature of internal construction.

The cornice is as indispensable a termination of the wall as the capital is of a pillar; and suggests not only an appropriate support for the roof, but eaves to throw the rain off the wall. The same is true with regard to pediments or caps over windows. they suggest a means of protecting an opening from the wet, and porches over doorways are equally obvious contrivances. Everything, in short, which is actually constructive, or which suggests what was or may be a constructive expedient, is a legitimate object of decoration, and affords the architect unlimited scope for the display of taste and skill, without going out of his way to seek it.

The difficulty in applying ornaments borrowed from other styles is, that although they all suggest construction, it is not *the* construction of the buildings to which they are applied. To use Pugin's clever antithesis, "they are constructed ornament, not ornamented construction," and as such can never satisfy the mind. However beautiful in themselves, they are out of place, there is no real or apparent use for their being there; and in an art so essentially founded on utilitarian principles and common sense as architecture is, any offence against constructive propriety is utterly intolerable.

The other class of decorative ornaments are forms invented for the purpose, either mere lithic forms, or copied from the vegetable kingdom, and applied so as to give elegance or brilliancy to the constructive decoration just described.

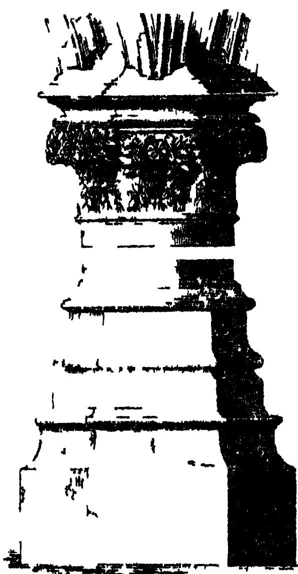
The first and most obvious of these are mere mouldings, known to architects as Scotias, Cavettos, Ogees, Toruses, Rolls, &c.—curves which, used in various proportions either horizontally or vertically, produce, when artistically combined, the most pleasing effect.

In conjunction with these, it is usual to employ a purely conventional class of ornament, such as frets, scrolls, or those known as the bead and reel, or egg and dart mouldings, or in Gothic architecture the billet or dog tooth or all the thousand and one forms that were invented during the middle ages.

In certain styles of art vegetable forms are employed even more frequently than those last described. Among these, perhaps the most beautiful and perfect ever invented was that known as the honeysuckle ornament, which the Greeks borrowed from the Assyrians, but made so peculiarly their own. It has all the conventional character of a purely lithic, with all the grace of a vegetable form, and as used with the Ionic order is more nearly perfect than any other known.

The Romans made a step further towards a more direct imitation of nature in their employment of the acanthus leaf. As applied to a capital, or where the constructive form of the bell beneath it is still distinctly seen, it is unobjectionable; but when the leaf supports the volute at the angles of the abacus it is on the very verge of good taste.

With their disregard of precedent and untrammelled wildness of imagination the Gothic architects tried every form of vegetable ornament from the purest conventionalism, where the vegetable form can hardly be recognised, to the most literal imitation of nature.

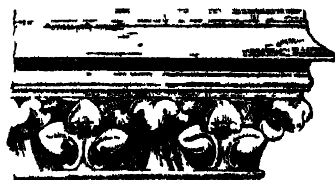


No. 4

While confining himself to purely lithic forms, an architect can never sin against good taste; though he may miss many beauties, with the latter class of ornament he is always in danger of offence, and few have ever employed it without falling into mistakes. In the first place, because it is impossible to imitate perfectly foliage and flowers in stone; and secondly, because if the plant forms of plants are made to support, or do the work of, hard stone, the incongruity is immediately apparent, and the more perfect the imitation the greater the mistake.

In the instance (woodcut No. 4), any amount of literal imitation that the sculptor thought proper may be indulged in, because in it the

stone construction is so apparent everywhere, that the vegetable form is the merest supplement conceivable; or in a hollow moulding round a doorway, a vine may be sculptured with any degree of imitation that can be employed; for as it has no more work to do than the object represented would have in the same situation, it is a mere adjunct, a statue of a plant placed in a niche, as we might use the statue of a man: but if in the woodcut (No. 5) imitations of real leaves were used to support the upper moulding, the effect would not be so satisfactory; indeed it is questionable if in both these last examples a little more conventionality would not be desirable.



No 5

In too many instances, even in the best Gothic architecture, the construction is so overlaid by imitative vegetable forms as to be concealed, and the work is apparently done by leaves or twigs, but in the earliest and purest style this is almost never the case. As a general rule it may be asserted that the best lithic ornaments are those which approach nearest to the grace and pliancy of plants, and that the best vegetable forms are those which most resemble the regularity and symmetry of such as are purely conventional.

Although the Greeks in one or two instances employed human figures to support entablatures or beams, the good taste of such an arrangement is more than questionable. They borrowed it, with the Ionic order, from the Assyrians, with whom the employment of caryatides and animal forms was the rule, not the exception, in contradistinction from the Egyptians, who never adopted this practice.[1] Even the Romans avoided this mistake, and the Gothic architects also as a general rule kept quite clear of it. Whenever they did employ ornamented figures for architectural purposes, they were either monsters, as in gargoyles, or griffons; or sometimes in a spirit of caricature they used dwarfs or deformities of various sorts; but their sculpture, properly so called, was always provided with a niche or pedestal, where it might have been placed after the building was complete, or from which it might be removed without interfering with the architecture.

IX.—Decorative Colour.

Colour is one of the most invaluable elements placed at the command of the architect to enable him to give grace or finish to his designs. From its nature it is of course only an accessory, or mere

[1] The Isis-headed or Typhonian capitals cannot be quoted as an exception to this rule: they are affixes, and never appear to be doing the work of the pillar.

ornament; but there is nothing that enables him to express his meaning so cheaply and easily, and at the same time with such brilliancy and effect. For an interior it is absolutely indispensable; and no apartment can be said to be complete till it has received its finishing touches from the hand of the painter. Whether exteriors ought or ought not to be similarly treated admits of more doubt.

Internally the architect has complete command of the situation; he can suit his design to his colours, or his colours to his design. Walls, roof, floor, furniture, are all at his command, and he can shut out any discordant element that would interfere with the desired effect.

Externally this is seldom, if ever the case. A façade that looks brilliant and well in noonday sun may be utterly out of harmony with a cold gray sky, or with the warm glow of a setting sun full upon it; and unless all other buildings and objects are toned into accordance with it, the effect can seldom be harmonious.

There can be now no reasonable doubt that the Greeks painted their temples both internally and externally, but as a general rule they always placed them on heights where they could only be seen relieved against the sky; and they could depend on an atmosphere of uniform, unvarying brightness. Had their temples been placed in groves or valleys, they would probably have given up the attempt, and certainly never would have ventured upon it in such a climate as ours.

Except in such countries as Egypt and Greece, it must always be a mistake to apply colour by merely painting the surface of the building externally; but there are other modes of effecting this which are perfectly legitimate. Coloured ornaments may be inlaid in the stone of the wall without interfering with the construction, and so placed be far more effective and brilliant than the same ornaments would be if carved in relief. Again, string-courses and mouldings of various coloured stones or marbles might be employed with far better effect than can be obtained by depth of cutting and boldness of projection. Such a mode of decoration can only be partial; if the whole building is to be coloured, it must be done constructively, or the effect will never be satisfactory.

In the middle ages the Italians carried this mode of decoration to a considerable extent; but in almost all instances it is so evidently a veneer overlying the construction that it fails to please; and a decoration which internally, where construction is of less importance, would excite general admiration, is without meaning on the outside of the same wall.

At the same time it is easy to conceive how polychromy might be carried out successfully, if, for instance, a building were erected, the pillars of which were of red granite or porphyry, the cornices or string-

courses of dark coloured marbles, and the plain surfaces of lighter kinds, or even of stone. A design so carried out would be infinitely more effective than a similar one executed in materials of only one colour, and depending for relief only on varying shadows of daylight. There is in fact just the same difficulty in lighting monochromatic buildings as there is with sculpture. A coloured painting, on the other hand, requires merely sufficient light, and with that expresses its form and meaning far more clearly and easily than when only one colour is employed. The task, however, is difficult; so much so, indeed, that there is hardly one single instance known of a complete polychromatic design being successfully carried out anywhere, though often attempted. The other mode of merely inlaying the ornaments in colour instead of relieving them by carving as seldom fails.

Notwithstanding this, an architect should never neglect to select the colour of his materials with reference to the situation in which his building is to stand. A red brick building may look remarkably well if nestling among green trees, while the same building would be hideous if situated on a sandy plain, and relieved only by the warm glow of a setting sun. A building of white stone or white brick is as inappropriate among the trees, and may look bright and cheerful in the other situation.

In towns colours might be used of very great brilliancy, and if done constructively, there could be no greater improvement to our architecture; but its application is so difficult that it may be questioned whether it will be ever successfully accomplished.

With regard to interiors there can be no doubt. All architects in all countries of the world resorted to this expedient to harmonise and to give brilliancy to their compositions, and depended on it for their most important effects.

The Gothic architects carried this a step further by the introduction of painted glass, which was a mode of colouring more brilliant than had been ever before attempted. This went beyond all previous efforts, inasmuch as it coloured not only the objects themselves, but also the light in which they were seen. So enamoured were they of its beauties, that they sacrificed much of the constructive propriety of their buildings to admit of its display, and paid more attention to it than to any other part of their designs. Perhaps they carried this predilection a little beyond the limits of good taste, but colour is in itself so exquisite a thing, and so admirable a vehicle for the expression of architectural as well as of æsthetic beauty, that it is difficult to find fault even with the abuse of what is in its essence so legitimate and so beautiful.

X.—Sculpture and Painting.

Carved ornament and decorative colour come within the especial province of the architect. In some styles, such as the Saracenic, and in many buildings, they form the Alpha and the Omega of the decoration. But one of the great merits of architecture as an art is that it affords room for the display of the works of the sculptor and the painter, not only in such a manner as not to interfere with its own decorative construction, but so as to add meaning and value to the whole. No Greek temple and no Gothic cathedral can indeed be said to be perfect or complete without these adjuncts; and one of the principal objects of the architects in Greece or in the middle ages was to design places and devise means by which these could be displayed to advantage, without interfering either with the construction or constructive decoration. This was perhaps effected more successfully in the Parthenon than in any other building we are acquainted with. The pediments at either end were noble frames for the exhibition of sculpture, and the metopes were equally appropriate for the purpose; while the plain walls of the cella were admirably adapted for paintings below and for a sculptured frieze above.

The deeply recessed portals of our Gothic cathedrals, their galleries, their niches and pinnacles, were equally appropriate for the exuberant display of this class of sculpture in a less refined or fastidious age; while the mullion-framed windows were admirably adapted for the exhibition of a mode of coloured decoration somewhat barbarous, it must be confessed, but wonderfully brilliant.

It is one of the special privileges of architecture that she is able to attract to herself these phonetic arts, and one of the greatest merits a building can possess is its affording appropriate places for their display without interfering in any way with the special department of the architect. But it is always necessary to distinguish carefully between what belongs to the province of each art separately. The work of the architect ought to be complete and perfect without either sculpture or painting, and must be judged as if they were absent; but he will not have been entirely successful unless he has provided the means by which the value of his design may be doubled by their introduction. It is only by the combination of the Phonetic element with the Technic that a perfect work of art has been produced, and that architecture can be said to have reached the highest point of perfection to which it can aspire.

XI.—Uniformity.

Considerable confusion has been introduced into the reasoning on the subject of architectural uniformity from the assumption that the two great schools of art—the classical and the mediæval—adopted contrary conclusions regarding it, formality being supposed to be the

characteristic of the former, irregularity of the latter. The Greeks, of course, when building a temple or monument, which was only one room or one object, made it exactly symmetrical in all its parts, but so did the Gothic architects when building a church or chapel or hall, or any single object: in ninety-nine instances out of a hundred, a line drawn down the centre divides it into two equal and symmetrical halves; and when an exception to this occurs, there is some obvious motive for it.

But where several buildings of different classes were to be grouped, or even two temples placed near one another, the Greeks took the utmost care to prevent their appearing parts of one design or one whole; and when, as in the instance of the Erechtheium,[1] three temples are placed together, no Gothic architect ever took such pains to secure for each its separate individuality as the Grecian architect did. What has given rise to the error is, that all the smaller objects of Grecian art have perished, leaving us only the great monuments without their adjuncts.

If we can conceive the task assigned to a Grecian architect of erecting a building like one of our collegiate institutions, he would without doubt have distinguished the chapel from the refectory, and that from the library, and he would have made them of a totally different design from the principal's lodge, or the chambers of the fellows and students; but it is more than probable that, while carefully distinguishing each part from the other, he would have arranged them with some regard to symmetry, placing the chapel in the centre, the library and refectory as pendants to one another, though dissimilar, and the residences so as to connect and fill up the whole design. The truth seems to be that no great amount of dignity can be obtained without a certain degree of regularity; and there can be little doubt that artistically it is better that mere utilitarian convenience should give way to the exigences of architectural design than that the latter should be constrained to yield to the mere prosaic requirements of the building. The chance-medley manner in which many such buildings were grouped together in the middle ages tells the story as clearly, and may be productive of great picturesqueness of effect, but not of the same nobility as might have been obtained by more regularity. The highest class of design will never be reached by these means.

It is not difficult to discover, at least to a certain extent, that the cause of this is that no number of separate units will suffice to make one whole. A number of pebbles will not make a great stone, nor a number of rose-bushes an oak; nor will any number of dwarfs make up a giant. To obtain a great whole there must be unity, to which all the parts must contribute, or they will remain separate particles. The effect of unity is materially heightened when to it is added uniformity: the

[1] See woodcuts further on.

mind then instantly and easily grasps the whole, knows it to be one, and recognises the ruling idea that governed and moulded the whole together. It seems only to be by the introduction of uniformity that sufficient simplicity for greatness can be obtained, and the evidence of design made so manifest that the mind is satisfied that the building is no mere accumulation of separate objects, but the production of a master-mind.

In a palace irregularity seems unpardonable. The architect has there practically unlimited command of funds and of his arrangements, and he can easily design his suites of rooms so as to produce any amount of uniformity he may require: the different heights of the different stories and the amount of ornament on them, with the employment of wings for offices, is sufficient to mark the various purposes of the various parts: but where the system is carried so far in great public buildings, that great halls, libraries, committee rooms, and subordinate residences are all squeezed into one perfectly uniform design, the building loses all meaning, and fails from the opposite error.

The rule seems to be, that every building or every part of one ought most distinctly and clearly to express not only its constructive exigences, but also the uses for which it is destined; on the other hand, that mere utility, in all instances where architectural effect is aimed at, ought to give way to artistic requirements, and that an architect is consequently justified, in so far as his means will admit, in producing that amount of uniformity and regularity which seems indispensable for anything like grandeur of effect. In villas and small buildings all we look for is picturesqueness and meaning combined with elegance; but in larger and more monumental erections we expect something more; and this can hardly be obtained without the introduction of some new element which shall tell, in the first place, that artistic excellence was the ruling idea of the design, and in the next should give it that perfect balance and symmetry which seems to be as inherent a quality of the works of nature as of true art.

XI. IMITATION OF NATURE.

The subject of the imitation of Nature is one intimately connected with those mooted in the preceding paragraphs, and regarding which considerable misunderstanding seems to prevail. It is generally assumed that in architecture we ought to copy natural objects as we see them, whereas the truth seems to be that we ought always to copy the processes, never the forms of Nature. The error apparently has arisen from confounding together the imitative arts of painting and sculpture with the constructive art of architecture. The former have no other mode of expression than by copying, more or less literally, the forms of Nature; the latter, as explained above, depends wholly

on a different class of elements for its effect; but at the same time no architect can either study too intently, or copy too closely, the methods and processes by which Nature accomplishes her ends; and the most perfect building will be that in which these have been most closely and literally followed.

To take one prominent instance:—So far as we can judge, the human body is the most perfect of Nature's works, in it the groundwork or skeleton is never seen, and though it can hardly be said to be anywhere concealed, it is only displayed at the joints or more prominent points of support, where the action of the frame would be otherwise unintelligible. The muscles are disposed not only where they are most useful, but so as to form groups gracefully rounded in outline. The softness and elegance of these are further aided by the deposition of adipose matter, and the whole is covered with a skin which with its beautiful texture conceals the more utilitarian construction of the internal parts. In the trunk of the body the viscera are disposed wholly without symmetry or reference to beauty of any sort—the heart on one side, the liver on the other, and the other parts exactly in those positions and in those forms by which they may most directly and easily perform the essential functions for which they are designed. But the whole is concealed in a perfectly symmetrical sheath of the most exquisitely beautiful outline. It may be safely asserted that a building is beautiful and perfect exactly in the ratio in which the same amount of concealment and the same amount of display of construction is preserved, where the same symmetry is shown as between the right and left sides of the human body—the same difference as between the legs and arms, where the parts are applied to different purposes, and where the same amount of ornament is added, to adorn without interfering with what is useful. In short, there is no principle involved in the structure of man which may not be taken as the most absolute standard of excellence in architecture.

It is in Nature's highest works that we find the symmetry of proportion most prominent. When we descend to the lower type of animals we lose it to a great extent, and among trees and vegetables generally find it only in a far less degree, and sometimes miss it altogether. In the mineral kingdom among rocks and stones it is altogether absent. So universal is this principle in Nature that we may safely apply it to our criticism on art, and say that a building is perfect as a whole in proportion to its motived regularity, and departs from the highest type in the ratio in which symmetrical arrangement is neglected. It may, however, be incorrect to say that an oak tree is a less perfect work of creation than a human being, but it is certain that it is lower in the scale of created being. So it may be said that a picturesque group of Gothic buildings may be as perfect as the stately regularity of an Egyptian or classic temple;

but if it is so, it is equally certain that it belongs to a lower and inferior class of design.

This analogy, however, we may leave for the present. The one point which it is indispensable to insist on here is, that man can progress or tend towards success only by following the principles and copying, so far as he can understand them, the processes which Nature employs in her works; but he can never succeed in anything by copying forms without reference to principles. If we could find Nature making trees like stones, or animals like trees, or birds like fishes, or fishes like mammalia, or using any parts taken from one kingdom for purposes belonging to another, it would then be perfectly legitimate for us to use man's stature as the modulus for a Doric, or woman's as that of an Ionic column; to build cathedrals like groves, and make windows like leaves, or to estimate their beauty by their resemblance to such objects; but all such comparisons proceed on an entire mistake of what imitation of Nature really means.

It is the merest and most absolute negation of reason to apply to our purposes things that were designed for another, or to imitate them when they have no appropriateness. But it is our highest privilege to understand the processes of Nature. To apply these to our own wants and purposes is the noblest use of human intellect and the perfection of human wisdom.

So instinctively but so literally has the correct process of imitating Nature been followed in all true styles of architecture, that we can examine and reason regarding them as well as with reference to natural objects. Thus if an architect finds in any quarter of the globe a Doric or Corinthian capital with a few traces of a foundation, he can at a glance tell the age of the temple or building to which it belonged. He knows who the people were who erected it, to what purpose it was dedicated, and proceeds at once to restore its porticos, and without much uncertainty can reproduce the whole fabric. Or if he finds a few Gothic bases in situ, with a few mouldings or frusta of columns, by the same process he traces the age, the size, the purposes of the building before him. A Cuvier or an Owen can restore the form and predicate the habits of an extinct animal from a few fragments of bone, or even from a print of a foot. In the same manner an architect may, from a few fragments of a building, if of a true style of architecture, restore the whole of its pristine forms, and with almost the same amount of certainty. This arises wholly because the architects of those days had correct ideas of what was meant by imitation of Nature. They added nothing to their buildings which was not essential; there was no detail which had not its use, and no ornament which was not an elaboration or heightening of some essential part, and hence it is that a true building is as like to a work of Nature as any production of man's hands can be to the creations of his Maker.

XII.—Association.

There is one property inherent in the productions of architectural art, which, while it frequently lends to them half their charm, at the same time tends more than anything else to warp and distort our critical judgments regarding them. We seldom can look at a building of any age without associating with it such historical memories as may cling to its walls; and our predilections for any peculiar style of architecture are more often due to educational or devotional associations than by purely artistic judgments. A man must be singularly ignorant or strangely passionless who can stand among the fallen columns of a Grecian temple, or wander through the corridors of a Roman amphitheatre, or the aisles of a ruined Gothic abbey, and not feel his heart stirred by emotions of a totally different class from those suggested by the beauty of the mouldings or the artistic arrangement of the building he is contemplating.

The enthusiasm which burst forth in the fifteenth century for the classical style of art, and then proved fatal to the Gothic, was not so much an architectural as a literary movement. It arose from the rediscovery—if it may be so called—of the poems of Homer and Virgil, of the histories of Thucydides and Tacitus, and of the philosophy of Aristotle and the eloquence of Cicero. It was a vast reaction against the darkness and literary degradation of the middle ages, and carried the educated classes of Europe with it for the next three centuries. So long as classical literature only was taught in our schools, and classical models followed in our literature, classical architecture could alone be tolerated in our buildings, and this generally without the least reference either to its own peculiar beauties, or its appropriateness for the purpose to which it was applied.

A second reaction has now taken place against this state of affairs. The revival of the rites and ceremonies of the mediaeval church, our reverent love of our own national antiquities, and our love and admiration for the rude but vigorous manhood of the middle ages,—all have combined to repress the classical element both in our literature and our art, and to exalt in their place Gothic feelings and Gothic art, to an extent which cannot be justified on any grounds of reasonable criticism.

Unless the art-critic can free himself from the influence of these adventitious associations his judgments lose half their value; but, on the other hand, to the historian of art they are of the utmost importance. It is because architecture so fully and so clearly expresses the feelings of the people who practised it that it became frequently a better vehicle of history than the written page; and it is these very associations that give life and meaning to blocks of stone and mounds of brick, and bring so vividly before our eyes the feelings and the aspirations of the long-forgotten past.

The importance of association in giving value to the objects of architectural art can hardly be overrated either by the student or historian. What has to be guarded against is that unreasoning enthusiasm which mistakes the shadow for the reality, and would force us to admire a rude piece of clumsy barbarism erected yesterday, and to which no history consequently attaches, because something like it was done in some long past age. Its reality, its antiquity, and its weather-stains may render its prototype extremely interesting, even if not beautiful, while its copy is only an antiquarian toy, as ugly as it is absurd.

XIII.—NEW STYLE.

There is still one other point of view from which it is necessary to look at this question of architectural design before any just conclusion can be arrived at regarding it. It is in fact necessary to answer two questions nearly as often asked as those proposed at the beginning of this Introduction. "Can we ever again have a new and original style of architecture?" "Can any one invent a new style?" Reasoning from experience alone, it is easy to answer these questions. No individual has, so far as we know, ever invented a new style in any part of the world. No one can even be named who during the prevalence of a true style of art materially advanced its progress, or by his individual exertion did much to help it forward; and we may safely answer, that as this has never happened before, it is hardly probable that it will ever occur now.

If this one question must be answered in the negative, the other may as certainly be answered in the affirmative, inasmuch as no nation in any age or in any part of the globe has failed to invent for itself a true and appropriate style of architecture whenever it chose to set about it in the right way, and there certainly can be no great difficulty in our doing now what has been so often done before, if we only set to work in a proper spirit, and are prepared to follow the same process which others have followed to obtain this result.

What that process is, may perhaps be best explained by an example; and as one of a building character, though totally distinct, let us take ship-building.

Let us take a series of ships, beginning with those in which William the Conqueror invaded our shores, or the fleet with which Edward III. crossed over to France. Next take the vessels which transported Henry VIII. to his meeting with Francis I., and then pass on to the time of the Spanish Armada, and the sea fights of Van Tromp and De Ruyter, and on to the times of William III., and then through the familiar examples till we come to such ships as the Wellington and Marlborough of yesterday, and the Warrior or Minotaur of to day. In all this long list of examples we have a gradual, steady, forward progress,

without one check or break. Each century is in advance of the one before it, and the result is as near perfection as we can well conceive.

But if we ask who effected these improvements, or who invented any part of the last-named wonderful fabrics, we must search deep indeed into the annals of the navy to find out. But no one has inquired, and no one cares to know, for the simple reason that, like architecture in the middle ages, it is a true and living art, and the improvements were not effected by individuals, but by all classes, owners, sailors, shipwrights, and men of science, all working together through centuries, each lending the aid of his experience or of his reasoning.

If we place alongside of this series of ships a list of churches or cathedrals, commencing with Charlemagne and ending with Charles V., we find the same steady and assured progress obtained by the same identical means. In this instance, princes, priests, masons, and mathematicians, all worked steadily together for the whole period, striving to obtain a well defined result.

In the ship the most suitable materials only are employed in every part and neither below nor aloft is there one single timber nor spar nor one rope which is superfluous. Nor in the cathedral was any material ever used that was not believed to be the most suitable for its purpose, nor any form of construction adopted which did not seem the best to those who employed it, nor any detail added which did not appear necessary for the purpose it was designed to express, the result being, that we can look on and contemplate both with the same unmitigated satisfaction.

The one point where the comparison seems to halt is, that ship building never became a purely fine art, which architecture really is. The difference is only one of aim which it would be as easy to apply to the one art as it has been to the other. Had architecture never progressed beyond its one strictly legitimate object of house-building it never would have been more near a fine art than merchant ship building, and palaces would only have been magnified dwelling-places. Castles and men of war advanced both one stage further towards a fine art. Size and power were impressed on both, and in this respect they stand precisely equal to one another. Here ship building halted, and has not progressed beyond, while architecture has been invested with a higher aim. In all ages men have sought to erect houses more dignified and stately than those designed for their personal use. They attempted the erection of dwelling-places for their gods, or temples worthy of the worship of Supreme Beings; and it was only when this strictly useful art threw aside all shadow of utilitarianism, and launched boldly forth in search of the beautiful and the sublime, that it became a truly fine art and took the elevated position which it now holds above all other useful arts. It would have been easy to supply the same motive to ship-building. If we could imagine any nation ever to construct ships

of God or to worship on the bosom of the ocean ships might easily be made such objects of beauty that the cathedral could hardly compete with them.

It is not, however, only in architecture or in ship-building that this process is essential for the progress of every art and every science that is worthy of the name is owing to the same simple process of the aggregation of experiences, whether we look to metallurgy or mechanics, cotton-spinning, or coining, their perfection is due to the same cause. So also the sciences, astronomy, chemistry, geology, are all cultivated by the same means. When the art or science is new great men stand forth and make great strides; but when once it reaches maturity, and becomes the property of the nation, the individual is lost in the mass, and a thousand inferior brains follow out steadily and surely the path which the one great intellect has pointed out, but which no single mind, however great, could carry to its legitimate conclusion.

So far as any reason or experience yet known can be applied to this subject, it seems clear that no art or science ever has been or can be now advanced by going backwards and copying earlier forms, or those applicable to other times or other circumstances; and that progress towards perfection can only be obtained by the united efforts of many steadily pursuing a well-defined object. Wherever this is done success appears to be inevitable, or at all events every age is perfectly satisfied with its own productions. Where forward progress is the law, it is certain that the next age will surpass the present; but the living cannot conceive anything more perfect than what they are doing, or they would apply it. It is with us in any true art, it is thoroughly up to the highest standard of its period; and instead of the desultory uncertainty in which we are wandering in all matters concerning architecture, we should be exulting in our own productions, and proud in leaving to our posterity the progress we may make, feeling assured that we have paved the way for them to advance to a still higher standard of perfection.

As soon as the public are aware of the importance of this rule and of its applicability to architecture, a new style must be the inevitable result; and if our civilization is what we believe it to be, that style will not only be perfectly suited to all our wants and desires, but also more beautiful and more perfect than any that has ever existed before.

§ XIV. Prospects.

If we turn from these speculations to ask what prospect there is of the public appreciating correctly this view of the matter, or setting earnestly about carrying it out, the answer can hardly be deemed satisfactory.

The clergy, not only in England but on the continent of Europe, have arrived at the conclusion that the Gothic style is the one most suited for church-building purposes; and this has now become so established a point that no deviation from Gothic models is tolerated

Any architect who would attempt originality in plan, or introduce even a new detail or moulding, is immediately set down as ignorant of his profession, and the experiment is not repeated. Every year that we continue in this path, and that our knowledge of the style becomes greater, the heavier will our chains become, and anything like originality or progress in this important branch of architecture more absolutely impossible.

The study of the classical languages, to which so much importance is attached in our public schools, and in our own and most foreign universities, tended at one time in another way to draw attention from the formation of a true style of architecture by fixing it exclusively on Greek and Roman models. The Renaissance in the 15th century, as pointed out above, arose much more from admiration of classic literature than from any feeling for the remains of buildings which had been neglected for centuries, and were far surpassed by those which succeeded them. The same feelings perpetuated by early association are the great cause of the hold that classic art still has on the educated classes in Europe.

In clubs and mixed societies the style usually adopted is the Italian, out of which progress may come if common sense be allowed to prevail over classical precedents, or the contrary if the reactionary element be allowed to obtain the preference.

Below these there is another class of men who have but little sympathy with Greece or Rome, and still less with mediaeval monasticism or feudalism, but who in their own strong sense seem inclined to take a more reasonable view of the matter, and these men are now erecting at Manchester and in other cities of the North a series of warehouses and other buildings designed wholly with reference to their uses, and ornamented only in their construction, and which consequently are as far as their utilitarian purposes will allow—as satisfactory as anything of former days. Eastward of Temple Bar there are many buildings arising on the same system and with a little more experience they promise to be as satisfactory as those in the North.

In civil engineering, the lowest and most prosaic branch of architectural art, our progress has been brilliant and rapid. Of this no better example can be given than the four great bridges erected over the Thames. Those of Westminster, Blackfriars, Waterloo, and London were erected at nearly equal intervals during one century, and the steady progress which they exhibit is greater than that of almost any similar branch of art during any equal period of time.

In this department our progress is so undeniable that we saw old London Bridge removed without regret, though it was a work of the same age and of the same men who built all our greatest and best cathedrals, and in its own line was quite as perfect and as beautiful as they. But it had outlived its age, and we knew we could replace it by a better—so its destruction was inevitable; and if we had made

the same progress in the higher that we have in the lower branches of the building art, we should see a Gothic cathedral pulled down with the same indifference, content to know that we could easily replace it by one far nobler and more worthy of our age and intelligence. No architect during the middle ages ever hesitated to pull down any part of a cathedral that was old and going to decay, and to replace it with something in the style of the day, however incongruous that might be; and if we were progressing as they were, we should have as little compunction in following the same course.

In the confusion of ideas and of styles which now prevails, it is satisfactory to be able to contemplate, in the Crystal Palace at Sydenham, at least one great building carried out wholly on the principles of Gothic or of any true style of art. No material is used in it which is not the best for its purpose, no constructive expedient employed which was not absolutely essential, and it depends wholly for its effect on the arrangement of its parts and the display of its construction. So essentially is its principle the same which, as we have seen, animated Gothic architecture, that we hardly know even now how much of the design belongs to Sir Joseph Paxton, how much to the contractors, or how much to the subordinate officers employed by the Company. Here, as in a cathedral, every man was set to work in that department which it was supposed he was best qualified to superintend. There was room for every art and for every intellect, and clashing and interference were impossible. This, however, is only the second of the series. A third would probably as far surpass it as it is beyond the first; and if the series were carried to a hundred, with more leisure and a higher aim, we might perhaps learn to despise many things we now so servilely copy, and might create a style surpassing anything that ever went before. We have certainly more wealth, more constructive skill, and more knowledge than our forefathers; and living in the same climate, and being of the same race, there seems no insuperable difficulty in our doing at least as much if not more than they accomplished.

Art, however, will not be regenerated by buildings so ephemeral as Crystal Palaces, or so prosaic as Manchester warehouses, nor by anything so essentially utilitarian as the works of our engineers. The one hope is that having commenced at the bottom, the true system may extend upwards, and come at last to be applied to our palaces and churches, and that the whole nation will lend its aid to work out the great problem. Whenever its significance is rightly appreciated by the public, this result seems inevitable, and with the means of diffusing knowledge which we now possess, we may perhaps be permitted to fancy that the dawn is at hand, and that after our long wanderings in the dark, daylight may again enlighten our path and gladden our hearts with the vision of brighter and better things in art than a false system has hitherto enabled us to attain.

PART III.

ETHNOGRAPHY AS APPLIED TO ARCHITECTURAL ART.

Ethnology, though one of the youngest, is perhaps neither the least beautiful nor the least attractive of that fair sisterhood of sciences, whose birth has rewarded the patient industry and inflexible love of truth which characterises the philosophy of the present day. It takes up the history of the world at the point where it is left by its elder sister Geology, and, following the same line of argument, strives to reduce to the same scientific mode of expression the apparent chaos of facts which have hitherto been looked upon as inexplicable by the general observer.

It is only within the limits of the present century that Geology was rescued from the dreams of cataclysms and convulsions which formed the staple of the science in the last century; and that step by step, by slow degrees, rocks have been classified, and phenomena explained. All that picturesque wildness with which the materials seemed at first sight to be distributed over the world's surface has been reduced to order, and they now lie arranged as clearly and as certainly in the mind of a geologist, as if they had been squared by the tool of a mason, and placed in order by the hand of a mechanic. So it is with Ethnology. Race has succeeded race;—all have been disturbed, some obliterated—many contorted—and sometimes the older, apparently, superimposed upon the newer. All at first sight is chaos and confusion, and it seems almost hopeless to attempt to unravel the mysteries of the long forgotten past. It is true nevertheless, in Ethnology, as in the sister science, that no change on the world's surface has taken place without leaving its mark. A race may be obliterated, or only crop up at the edge of some great basin of population; but it has left its traces, either as fossil remains in the shape of buildings or works, or as impressions on language or art on those who supplanted the perishing race. When these are read,—when all the phenomena are gathered together and classified, we find the same perfection of Order, the same beautiful simplicity of law pervading the same complex variety of results, which characterise all the phenomena of nature, and the knowledge of which is the highest reward of intellectual exertion.

Language has hitherto been the great implement of analysis which has been employed to elucidate the affiliation of races; and the present state of the science may be said to be almost entirely due to the acumen

and industry of learned linguists. Physiology has lent her aid; but the objects offered for her examination are so few, especially in remote ages, and the individual differences are so small, as compared with the general resemblance, that, in the present state of that science, its aid has not been of the importance which it may fairly be expected hereafter to assume. In both sciences History plays an important part: in Geology, by furnishing analogies without which it would be hardly possible to interpret the facts; in Ethnology, by pointing out the direction in which inquiries should be made and by guiding and controlling the conclusions which may have been arrived at. With the assistance of these sciences, Ethnologists have accomplished a great deal, and may do more; but Ethnology, based merely on Language and Physiology, is like Geology based only on Mineralogy and Chemistry. Without Palæontology, that science would never have assumed the importance or reached the perfection to which it has now attained; and Ethnology will never take the place which it is really entitled to, till its results are checked, and its conclusions elucidated, by the science of Archæology.

Without the aid and vivifying influence derived from the study of fossil remains, Geology would lose half its value, and more than half its interest. It may be interesting to the man of science to know what rock is superimposed upon another, and how and in what relative periods these changes occurred; but it is far more interesting to watch the dawn of life on this globe, and to trace its development into the present teeming stage of existence. So it will be when, with the aid of Archæology, Ethnologists are able to identify the various strata in which mankind have been distributed; to fix identities of race from similarities of Art, and to read the history of the past from the unconscious testimony of material remains. When properly studied and understood, there is no language so clear, or whose testimony is so undoubted, as that of those petrified thoughts and feelings which men have left engraved on the walls of their temples, or buried with them in the chambers of their tombs. Unconsciously expressed, but imperishably written, they are there to this hour. Any one who likes may read, and no one who can translate them can for one moment doubt but that they are the best and frequently the only, records that remain of bygone races.

It is not difficult to explain why ethnographers have not hitherto considered Archæology of that importance to their researches to which it is undoubtedly entitled. We live in an age when all Art is a chaos of copying and confusion; we are daily masquerading in the costume of every nation of the earth, ancient and modern, and are unable to realize that these dresses in which we deck ourselves were once realities. Because Architecture, since the Reformation in the sixteenth century, has in Europe been a mere *hortus siccus* of dried specimens of the art of

all countries and of all ages, we cannot feel that, before that time, Art was earnest and progressive; and that men then did what they felt to be best and most appropriate, by the same processes by which Nature works. We do not therefore perceive that, though in an infinitely lower grade, we may reason of the works of man before a given date, with the same certainty with which we can reason of those of Nature. When this great fact is once recognized—and it is indisputable—Archæology and Palæontology take their places side by side, as the guiding and vivifying elements in the sister sciences of Ethnology and Geology; and give to each of these a value they could never otherwise attain.

As may well be expected, however, when Archæology is employed to aid in these researches, results are frequently arrived at, which at first sight are discrepant from those to which the study of language alone has hitherto led scientific men. But this is no proof either of the truth or falsehood of the conclusions arrived at, or of the value or worthlessness of the processes employed. Both are essential to the question of knowledge, and it is by a skilful balancing of both classes of evidence that truth is ultimately arrived at.

It would be out of place to attempt in an introduction like the present anything approaching to a complete investigation of this subject. Nor is it necessary. The various ethnographic relations of one style to another will be pointed out as they arise in the course of the narrative, and their influence traced to such an extent as may be necessary to render them intelligible. But for the same reasons which made it expedient that the Technical properties of Architecture should be sketched in the previous chapters of this introduction, it will add to the clearness of what follows if the typical characteristics of the principal races[1] of mankind with whom the narrative deals, are first defined as clearly though as succinctly as possible.

As the object of introducing the subject here is not to write an essay on Ethnology, but to render the history of Architecture interesting and intelligible, it may be expedient to avoid all speculation as to the origin of mankind, or the mode in which the various races diverged from one another and became so markedly distinct. Stretch the history of Architecture as we will, we cannot get beyond the epoch of the Pyramid builders, and when these were erected the various races of mankind had acquired those distinctive characteristics which mark

[1] The term "Persistent Varieties" has recently been introduced, instead of "race," in ethnological nomenclature, and, if scientific accuracy is aimed at, is no doubt an improvement. It is an advantage to have a term which does not even in appearance prejudge any of the questions between the monogenists and polygenists, and leaves undecided all the questions how the variations of mankind arose. But it sounds pedantic; and "race" may be understood as meaning the same thing.

them now. Not long afterwards, when the tombs at Beni Hassan were painted, these distinctions were so marked and so well understood that these pictures might serve for the illustration of a book on Ethnography at the present day. Nor will it be necessary in this preliminary sketch to attempt more than to point out the typical features of the four great building races of mankind. The Turanian, the Semitic, the Celtic, and the Aryan. Even with regard to these, all that will be necessary will be to point out the typical characteristics without even attempting to define too accurately their boundaries, and leaving the minuter gradations to be developed in the sequel.

The one great fact which it is essential to insist on here is, that if we do not take into account its connexion with Ethnography, the History of Architecture is a mere dry, hard recapitulation of uninteresting facts and terms, but when its relation to the world's history is understood,—when we read in their buildings the feelings and aspirations of the people who erected them and above all through their arts we can trace their relationship to, and their descent from one another, the study becomes one of the most interesting, as well as one of the most useful which can be presented to an inquiring mind.

II. TURANIAN.

The result of recent researches has enabled the ethnographer to divide and arrange prehistoric man into three great groups or periods, which in Europe at least certainly succeeded to one another, though at what times has not yet been determined even approximately, nor is it known how long any of the three subsisted before it was superseded by the next.

The first is called the Stone age, from the rude race who then peopled Europe having no knowledge of the use of metals. All the cutting parts of their implements were formed of flint or other hard stones, probably fitted with wooden or bone handles, and used with tools of these materials.

These were succeeded by a people having a knowledge of the use of copper and tin, with the possession of gold, and perhaps silver. Their principal weapons and tools were formed of a compound of the two first-named metals; and their age has consequently been called the age of Bronze.

Both these were superseded, perhaps in historic times, by a people having a knowledge of the properties and use of Iron. Hence their epoch came to be distinguished by the name of that metal.

There seems no doubt but that the people of the Stone age were generally, if not exclusively, of that great family which we now know as the Turanian.

The race who introduced bronze seem to have been the ancestors of the Celtic races who afterwards peopled so large a portion of Europe.

The Aryans were those who introduced the use of iron, and with it dominated over and expelled the older races.

If any prehistoric traces of the Semitic races are to be found, they must be looked for in Western Asia or in Africa. they certainly had no settlements in Europe.

Further researches may perhaps at some future time enable us to fix approximate dates to these various migrations. At present we know that men using flint implements lived in the valleys of the Garonne and Dordogne when the climate of the south of France was as cold as that of Lapland, or perhaps Greenland, when the reindeer was their principal domestic animal, and the larger animals of the country belonged to species many of which had ceased to inhabit those regions before the dawn of history. On the other hand. we may assert with certainty that the climate of Egypt has not varied since the age of the pyramid builders: and there is nothing in the history of either Greece or Italy that would lead us to believe that any remarkable alteration in the climate of these countries has taken place in historic times.

These questions, however, hardly come within the scope of the present work. The men of the Stone age have left nothing which can be styled architecture, unless we include in that term the rude tumuli of earth with which they covered the remains of their dead. It is also extremely uncertain if we can identify any building of stone now existing in Western or Northern Europe as belonging certainly to the age of Bronze. All the rude cromlechs, dolmens, menhirs, and circles of stone which usher in the early dawn of civilization in Europe, belong, it is true, to the earlier races but seem to have been erected by them at a time when the Aryan races had taught them the use of iron, and they had learnt to appreciate the value of stone as a monumental record. This may limit the date of all our Celtic remains to a period subsequent to the expansion of the Roman power, but this was long subsequent to the use of iron in Egypt and the East, and long after architecture had attained maturity; and its history became easily and distinctly legible in the valley of the Nile.

The great feature in the history of the Turanian races is that they were the first to people the whole world beyond the limits of the original cradle of mankind. Like the primitive unstratified rocks of geologists, they form the substructure of the whole world, frequently rising into the highest and most prominent peaks, sometimes overflowing whole districts, and occupying a vast portion of the world's surface;—everywhere underlying all the others, and affording their disintegrated materials to form the more recent strata that now overlie and frequently obliterate them,—in appearance at least.

In the old world the Typical Turanians were the Egyptians; in the modern the Chinese and Japanese;—and to these we are perhaps jus-

tified in adding the Mexicans. If this last adscription stands good, we have at three nearly equidistant points (120 degrees apart) on the earth's surface, and under the tropic of Cancer, the three great culminating points of this form of civilization. The outlying strata in Asia are the Tamuls, who once occupied all India, and all the races now existing in the countries between India and China. The Turanians existed in the valley of the Euphrates before the Semitic or Aryan races came there. The Tunguses in the north are Turanians, and so are the Mongols, the Turks, and all those tribes generally described as Tartars.

In Europe the race crops up in the Magyars, the Finns, the Lapps, and in odd broken fragments here and there, but everywhere overpowered by the more civilized Aryans, who succeeded and have driven them into the remotest corners of the continent.

In Africa they have been almost as completely overpowered by the Semitic race, and in America are now being everywhere as entirely overwhelmed as they were in Europe by the Aryan races, and in all probability will soon disappear altogether.

Even if the linguist should hesitate to affirm that all their languages can be traced to a common root, or present sufficient affinities for a classification, the general features of the races enumerated above are so alike the one to the other, that, for all real ethnographic purposes, they may certainly be considered as belonging to one great group. Whether nearly obliterated, as they are in most parts of Europe, or whether they still retain their nationality, as in the eastern parts of Asia, they always appear as the earliest of races, and everywhere present peculiarities of feeling and civilization easily recognized, and which distinguish them from all the other races of mankind.

If they do not all speak cognate languages, or if we cannot now trace their linguistic affinities, we must not too readily assume that therefore they are distinct the one from the other. It must be more philosophical to believe, what probably is the case, that the one instrument of analysis we have hitherto used is not sufficient for the purpose, and we ought consequently to welcome every other process which will throw further light on the subject.

RELIGION OF THE TURANIANS.

It is perhaps not too much to assert that no Turanian race ever rose to the idea of a God external to the world. All their gods were men who had lived with them on the face of the earth. In the old world they were kings,—men who had acquired fame from the extent of their power, or greatness from their wisdom The Buddhist reform taught the Turanian races that virtue, not power, was true greatness, and that the humblest as well as the highest might attain beatitude through the practice of piety.

All the Turanians have a distinct idea of rewards and punishments after death, and generally also of a preparatory purgatory by transmigration through the bodies of animals, clean or unclean according to the actions of the defunct spirit, but always ending in another world. With some races transmigration becomes nearly all in all; in others it is nearly evanescent, and Heaven and Hell take its place; but the two are essentially doctrines of this race.

From the fact of their gods having been only ordinary mortals, and all men being able to aspire to the godhead, their form of worship was essentially anthropic and ancestral; their temples were palaces, where the gods sat on thrones and received petitions and dispensed justice as in life, and where men paid that homage to the image of the dead which they would have paid to the living king. They were in fact the idolators, *par excellence*. Their tombs were even more sacred than their temples, and their reverence was more frequently directed to the remains of their ancestors than to the images of their gods. Hence arose that reverence for relics which formed so marked a feature in their ritual in all ages, and which still prevails among many races almost in the direct ratio in which Turanian blood can be traced in their veins.

Unable to rise above humanity in their conceptions of the deity, they worshipped all material things. Trees with them in all times were objects of veneration, and of especial worship in particular localities. The mysterious serpent was with them a god, and the bull in most Turanian countries an object of special veneration. The sun, the moon, the stars, all filled niches in their Pantheon; in fact, whatever they saw they believed in, whatever they could not comprehend they worshipped. They cared not to inquire beyond the evidence of their senses, and were incapable of abstracting their conceptions. To the Turanians also is due that peculiar reverence for localities made celebrated by great historical events, or rendered sacred by being the scene of great religious events, and hence to them must be ascribed the origin of pilgrimages and all their concomitant adjuncts and ceremonies.

It is to this race also that we owe the existence of human sacrifices Always fatalists, always and everywhere indifferent of life, and never fearing death, these sacrifices never were to them so terrible as they appear to more highly organized races. Thus a child, a relative, or a friend, was the most precious, and consequently the most acceptable offering a man could bring to appease the wrath or propitiate the favour of a god who had been human, all whose feelings were supposed to be retained for ever afterwards.

It is easy to trace their tree and serpent worship in every corner of the old world from Anuradhapura in Ceylon, to Upsala in Sweden. Their tombs and tumuli exist everywhere. Their ancestral worship is the foundation at the present day of half the popular creeds of the

world, and the planets have hardly ceased to be worshipped at the present hour. Most of the more salient peculiarities of this faith were softened down by the great Buddhist reform in the sixth century B.C., and that refinement of their rude primitive belief has been adopted by most of the Turanian people of the modern world; but even through its gloss we can still discern most of the old forms of faith, and even its most devoted votaries are yet hardly more than half converted.

GOVERNMENT.

The only form of government ever adopted by any people of Turanian race was that of absolute despotism,—with a tribe, a chief,—in a kingdom, a despot. In highly civilized communities, like those of Egypt and China, their despotism was tempered by bureaucratic forms, but the chief always as absolute as a Timour or an Attila, though not always strong enough to use his power as terribly as they did. Their laws were real or traditional edicts of their kings, seldom written, and never administered according to any fixed form of procedure.

As a consequence, or a cause of this, the Turanian race are absolutely casteless: no hereditary nobility no caste of priests ever existed among them, between the ruler and the people there could be nothing, and every one might aspire equally to all the honours of the State, or to the highest dignity of the priesthood. "La carrière ouverte aux talens," is essentially the motto of these races or of those allied to them, and whether it was the slave of a Pharaoh, or the pipe bearer of a Turkish sultan, every office except the throne is and always was open to the ambitious. No republic, no limited monarchy, ever arose among them. Despotism pure and simple is all they ever knew, or are even now capable of appreciating.

MORALS.

Woman among the Turanian races was never regarded otherwise than as the helpmate of the poor, and the plaything of the rich; born to work for the lower classes, and to administer to the gratification of the higher. No equality of rights or position was ever dreamt of, and the consequence was polyandry where people were poor and women scarce, and polygamy where wealth and luxury prevailed; and with these it need hardly be added, a loss of half those feelings which ennoble man or make life valuable.

Neither loving nor beloved in the bosom of his own family,—too much of a fatalist to care for the future,—neither enjoying life nor fearing death,—the Turanian is generally free from those vices which contaminate more active minds; he remains sober, temperate, truthful, and kindly in all the relations of life. If however, he has few vices he

has fewer virtues, and both are far more passive than active in their nature,—in fact, approach more nearly to the instincts of the lower animals than to the intellectual responsibilities of the highest class of minds.

Literature.

No Turanian race ever distinguished itself in literature, properly so called. They all possessed annals, because they loved to record the names, the dates, and the descent of their ancestors: but these never rose to the dignity of history even in its simplest form. Prose they could hardly write, because none of the greater groups ever appreciated the value of an alphabet. Hieroglyphics, signs, symbols, anything sufficed for their simple intellectual wants, and they preferred trusting to memory to remember what a sign stood for, rather than exercise their intellect to compound or analyse a complex alphabetical arrangement. Their system of poetry helped them, to some extent, over the difficulty; and, with a knowledge of the metre, a few suggestive signs enabled the reader to remember at least a lyric composition. But without a complex grammar to express and an alphabet to record their conceptions it is hopeless to expect that either Epic or Dramatic Poetry could flourish, still less that a prose narrative of any extent could be remembered; and philosophy, beyond the use of proverbs, was out of the question.

In their most advanced stages they have, like the Chinese, invented syllabaria of hideous complexity, and have even borrowed alphabets from their more advanced neighbours. By some it is supposed that they have even invented them; but though they have thus got over the mechanical difficulties of the case, their intellectual condition remains the same, and they have never advanced beyond the merest rudiments of a literature, and have never mastered even the elements of any scientific philosophy.

Arts.

If so singularly deficient in the phonetic modes of literary expression, the Turanian races made up for it to a great extent in the excellence they attained in most of the branches of æsthetic art. As architects they were unsurpassed, and in Egypt alone have left monuments which are still the world's wonder. The Tamul race in Southern, the Moguls in Northern India, in Burmah, in China, and in Mexico, wherever these races are found, they have raised monuments of dimensions unsurpassed; and, considering the low state of civilization in which they often existed, displaying a degree of taste and skill as remarkable as it is unexpected.

In consequence of the circumstance above mentioned of their gods

having been kings, and after death still only considered as watching over and influencing the destiny of mankind, their temples were only exaggerated palaces, containing halls, and chambers, and thrones, and all the appurtenances required by the living, but on a scale befitting the celestial character now acquired. So much is this the case in Egypt that we hardly know by which name to designate them, and the same remark applies to all.

Even more sacred, however, than their temples were their tombs. Wherever a Turanian race exists or existed, there their tombs remain; and from the Pyramids of Egypt to the mausoleum of Hyder Ali, the last Tartar king in India, they form the most remarkable series of monuments the world possesses, and all were built by people of Turanian race. No Semite and no Aryan ever built a tomb that could last a century or was worthy to remain so long.

The Buddhist reform altered the funereal tumulus into a relic shrine, modifying this as it did most of the Turanian forms of utterance, from a literal to a somewhat more spiritual form of expression, but leaving the meaning the same, the Tope being still essentially a tomb.

Combined with that wonderful appreciation of form which characterizes all the architectural works of the Turanians, they possessed an extraordinary passion for coloured decoration and an instinctive knowledge of the harmony of colours. They used throughout the primitive colours in all their elemental crudeness; and though always brilliant, are never vulgar, and guiltless of any mistake in harmony. From the first dawn of painting in Egypt to the last signboard in Constantinople or Canton, it is always the same—the same brilliancy and harmony produced by the simplest means.

In sculpture they were not so fortunate. Having no explanatory literature to which to refer, it was necessary that their statues should tell their whole tale themselves: and sculpture does not lend itself to this so readily as painting. With them it is not sufficient that a god should be colossal, he must be symbolical; he must have more arms and legs or more heads than common men; he must have wings and attributes of power, or must combine the strength of a lion or a bull with the intellect of humanity. The statue must, in short, tell the whole story itself; and where this is attempted the result can only be pleasing to the narrow faith of the unreflecting devotee. So far from being able to express more than humanity, sculpture must attempt even less if it would be successful; but this of course rendered it useless for the purposes to which the Turanians wished to apply it.

The same remarks apply to painting, properly so called. This never can attain its highest development except when it is the exponent of phonetic utterances. In Greece the painter strove only to give form and substance to the more purely intellectual creation of the poet, and

could consequently dispense with all but the highest elements of his art. In Egypt the picture was all in all; it had no text to refer to, and must tell the whole tale with all its adjuncts, in simple intelligible prose, or be illegible, and the consequence is that the story is told with a clearness that charms us even now. It is, however, only a story; and, like everything else Turanian, however great or wonderful, its greatness and its wonder are of a lower class and less intellectual than the utterances of the other great divisions of the human family.

We have scarcely the means of knowing whether any Turanian race ever successfully cultivated music to any extent. It is more than probable that all their families can and always could appreciate the harmony of musical intervals, and might be charmed with simple cadences, but it is nearly certain that a people who did not possess phonetic poetry could never rise to that higher class of music which is now carried to such a pitch of perfection, that harmonic combinations almost supply the place of phonetic expression and influence the feelings and passions to almost the same extent.

There is also this further peculiarity about their arts, that they seem always more instinctive than intellectual, and consequently are incapable of that progress which distinguishes most of the works of man. At the first dawn of art in Egypt, in the age of the Pyramid builders, all the arts were as perfect and as complete as they were when the country fell under the domination of the Romans. The earliest works in China are as perfect—in some respects more so—as those of to-day; and in Mexico, so soon as a race of red savages peopled a country so densely as to require art and to appreciate magnificence, the arts sprung up among them with as much perfection, we may fairly assume, as they would have attained had they been practised for thousands of years under the same circumstances and uninfluenced by foreigners. It is even more startling to find that the arts of the savages who inhabited the south of France on the skirts of the glacial period, are identical with those of the Esquimaux of the present day.

SCIENCE.

There is no reason to suppose that any people occupying so low a position in the intellectual scale could ever cultivate anything approaching to abstract science, and there is no proof of it existing. Living, however, as they did, on the verge of the tropics, in the most beautiful climates of the world, and where the sky is generally serene and unclouded, it was impossible but that they should become to some extent astronomers.

It is not known that any of them ever formed any theory to

account for the phenomena they observed, but they seem to have watched the paths of the planets, to have recorded eclipses, and generally to have noted times and events with such correctness as enabled them to predict their return with very considerable precision; but here their science stopped, and it is not known that they ever attempted any other of the multifarious branches of modern knowledge.

We have only very imperfect means of knowing what their agriculture was; but it seems always to have been careful when once they passed from the shepherd state, though whether scientific or not it is not easy to say. On the point of artificial irrigation the Turanians have always been singularly expert. Wherever you follow their traces, the existence of a tunnel is almost as certain an indication of their pre-existence as that of a tomb. It is amusing, as it is instructive, to see at this hour an Arab Pacha breaking down in his attempts to restore the irrigation works of the old Pharaohs, or an English Engineer officer blundering in his endeavours to copy the works instinctively performed by a Mogul, or a Spaniard trying to drain the lakes of Mexico. Building and irrigation were the special instincts of this old people, and the practical intellect of the higher races seems hardly yet to have come up to the point where these arts were left by the early Turanian races, while the perfection they attained in them is the more singular from the contrast it affords to what they did, or, rather, did not do, in other branches of art or science.

III.—SEMITIC RACES.

From the extraordinary influence the Semitic races have had in the religious development of mankind, we are apt to consider them as politically more important than they really ever were. At no period of their history have they numbered more than twenty or thirty millions of souls. The principal locality in which they developed themselves was the small tract of country between the Tigris, the Mediterranean, and the Red Sea; but they also existed as a separate race in Abyssinia, and extended their colonies along the northern coast of Africa. Their intellectual development has been in all ages so superior to that of the Turanian races, that they have subdued them mentally wherever they came in contact with them; and notwithstanding their limited geographical extension, they have influenced the intellect of the Aryan tribes to a greater extent than almost any of their own congeners.

If anything were required to justify the ethnographer in treating the various families of mankind as distinct and separate varieties, it would be the study of the history of the Semitic race. What they were in the time of Abraham, that they are at the present day. A large section

of them sojourned in Egypt, among people of a different race, and they came out as unmixed as oil would do that is floated in water. For the last two thousand years they have dwelt dispersed among the Gentiles, without a nationality, almost without a common language, yet they remain the same in feature, the same in intellectual development and feeling, they exhibit the same undying repugnance to all except those of their own blood, which characterised the Arab and the Jew when we first recognize their names in history. So unchangeable are they in this respect, that it seems in vain to try to calculate how long this people must have lived by themselves, separated from other races, that they should have thus acquired that distinctive fixity of character nothing can alter or obliterate, and which is perhaps even more wonderful intellectually than are the woolly hair and physical characteristics of the negro, though not so obvious to the superficial observer.

Religion.

From the circumstance of our possessing a complete series of the religious literature of the Semitic race, extending over the two thousand years which elapsed between Moses and Mahomet, we are enabled to speak on this point with more precision than we can regarding the doctrines of almost any other people.

The great and distinguishing tenet of this race when pure is and always seems to have been the unity of God, and his not being born of man. Unlike the gods of the Turanians, their Deity never was man, never reigned or lived on earth, but was the Creator and Preserver of the universe, living before all time, and extending beyond all space; though it must be confessed they have not always expressed this idea with the purity and distinctness which might be desired.

It is uncertain how far they adhered to this purity of belief in Assyria, where they were more mixed up with other races than they have ever been before or since. In Syria, where they were superimposed upon and mixed with a people of Turanian origin, they occasionally worshipped stones and groves, serpents, and even bulls; but they inevitably oscillated back to the true faith and retained it to the last. In Arabia, after they became dominant, they cast off their Turanian idolatries, and rallied as one man to the watchword of their race, "There is no God but God," expressed with a clearness that nothing can obscure, and clung to it with a tenacity that nothing could shake or change. Since then they have never represented God as man, and hardly ever looked upon him as actuated by the feelings of humanity.

The channel of communication between God and man has always been, with all the Semitic races, by means of prophecy. Prophets are sent or are inspired by God, to communicate his will to man, to propound his laws, and sometimes to foretell events; but in all instances

without losing their character as men, or becoming more than messengers for the special service for which they are sent.

With the Jews, but with them only, does there seem to have been a priest caste set aside for the special service of God; not selected from all the people, as would have been the case with the casteless Turanians, but deriving their sanctity from descent, as would have been the case with the Aryans; still they differed from the Aryan institution inasmuch as the Levites always retained the characteristics of a tribe, and never approached the form of an aristocracy. They may therefore be considered ethnographically as an intermediate institution, partaking of the characteristics of the other two races.

The one point in which the Semitic form of religion seems to come in contact with the Turanian, is that of sacrifice, human, in early times perhaps, even till the time of Abraham, but afterwards only of oxen and sheep and goats in hecatombs; and thus apparently not among the Arabs, but only with the Jews and the less pure Phoenicians.

From their having no human gods they avoided all the palatial temples, or ceremonial forms of idolatrous worship. Strictly speaking, they have no temples. There was one holy place in the old world, the Hill of Zion at Jerusalem, and one in the new dispensation, the Kaaba at Mecca. Solomon, it is true, adorned the first to an extent but little consonant with the true feeling of his race, but the Kaaba remains in its primitive insignificance, and neither of these temples, either then or now, derive their sanctity from the buildings. They are the spots where God's prophets stood and communicated his will to man. It is true that in after ages a Roman Tetrarch and a Turkish Sultan surrounded these two Semitic cells with courts and cloisters, which made them wonders of magnificence in the cities where they existed; but this does not affect the conclusion that no Semitic race ever erected a durable building, or even thought of possessing more than one temple at a time, or cared to emulate the splendour of the temple-palaces of the Turanians.

GOVERNMENT.

Although no Semitic race was ever quite republican, which is a purely Aryan characteristic, they never sank under such an unmitigated despotism as is generally found among the Turanians. When in small nuclei, their form of government is what is generally called patriarchal, the chief being neither necessarily hereditary, nor necessarily elective, but attaining his headship partly by the influence due to age and wisdom, or to virtue, partly to the merits of his connexions, and sometimes of his ancestors; but never wholly to the latter without some reference at least to the former.

In larger aggregations the difficulty of selection made the chiefship more generally hereditary; but even then the power of the King was always controlled by the authority of the written law, and never sank into the pure despotism of the Turanians. With the Jews, too, the sacred caste of the Levites always had considerable influence in checking any excesses of kingly power; but more was due in this respect to their peculiar institution of prophets, who, protected by the sacredness of their office, at all times dared to act the part of tribunes of the people, and to rebuke with authority any attempt on the part of the King to step beyond the limits of the constitution.

MORALS.

One of the most striking characteristics in the morals of the Semitic races is the improvement in the position of woman, and the attempt to elevate her in the scale of existence. If not absolutely monogamic, there is among the Jews, and among the Arabic races where they are pure, a strong tendency in this direction; and but for the example of those nations among whom they were placed, they might have gone further in this direction, and the dignity of mankind have been proportionately improved.

Their worst faults arise from their segregation from the rest of mankind. With them war against all but those of their own race is an obligation and a pleasure, and it is carried on with a relentless cruelty which knows no pity. To smite root and branch, to murder men, women, and children, is a duty which admits of no hesitation, and has stained the character of the Semites in all ages. Against this must be placed the fact that they are patriotic beyond all other races, and steadfast in their faith as no other people have ever been; and among themselves they have been tempered to kindness and charity by the sufferings they have had to bear because of their uncompromising hatred and repugnance to all their fellow-men.

This isolation has had the further effect of making them singularly apathetic to all that most interests the other nations of the earth. What their God has revealed to them through his prophets suffices for them. "God is great," is a sufficient explanation with them for all the wonders of science. "God wills it," solves all the complex problems of the moral government of the world. If not such absolute fatalists as the Turanians, they equally shrink from the responsibility of thinking for themselves, or of applying their independent reason to the great problems of human knowledge. They may escape by this from many aberrations that trouble more active minds, but their virtues at best can be but negative, and their vices unredeemed by the higher aspirations that sometimes half ennoble even crime.

LITERATURE.

In this again we have an immense advance above all the Turanian races. No Semitic people ever used a hieroglyph or mere symbol, or were content to trust to memory only. Everywhere and at all times-so far as we know--they used an alphabet of more or less complicated form. Whether they invented this mode of notation or not is still unknown, but its use by them is certain; and the consequence is that they possess, if not the oldest, at least one of the very oldest literatures of the world. History with them is no longer a mere record of names and titles, but a chronicle of events, and with the moral generally elicited. The story and the rhapsody take their places side by side, the preaching and the parable are used to convey their lessons to the world. If they had not the Epos and the Drama, they had lyric poetry of a beauty and a pathos which has hardly ever been surpassed.

It was this possession of an alphabet, conjoined with the sublimity of their monotheistic creed, that gave these races the only superiority to which they have attained. It is this which has enabled them to keep themselves pure and undefiled in all the catastrophes to which they have been exposed, and that still enables their literature and their creed to exert an influence over almost all the nations of the earth, even in times when the people themselves have been held in most supreme contempt

ARTS.

It may have been partly in consequence of their love of phonetic literature, and partly in order to keep themselves distinct from those great builders the Turanians, that the Semitic races never erected a building worthy of the name; neither at Jerusalem, nor at Tyre or Sidon, nor at Carthage, is there any vestige of Semitic Architectural Art. Not that these have perished, but because they never existed. When Solomon proposed to build a temple at Jerusalem, though plain externally, and hardly so large as an ordinary parish church, he was forced to have recourse to some Turanian people to do it for him, and by a display of gold and silver and brass ornaments to make up for the architectural forms he knew not how to apply.

In Assyria we have palaces of dynasties more or less purely Semitic, splendid enough, but of wood and sunburnt bricks, and only preserved to our knowledge from the accident of their having been so clumsily built as to bury themselves and their wainscot slabs in their own ruins. Though half the people were probably of Turanian origin, their temples seem to have been external and unimportant till Sennacherib and others learnt the art of using stone from the Egyptians, as the Syrians did afterwards from the Romans. During the domination of the last-

named people, we have the temples of Palmyra and Baalbec, of Jerusalem, and Petra: everywhere an art of the utmost splendour, but with no trace of Semitic feeling or Semitic taste in any part, or in any detail.

The Jewish worship being neither ancestral, nor the bodies of their dead being held in special reverence, they had no tombs worthy of the name. They buried the bodies of their patriarchs and kings with care, and knew where they were laid; but not until after the return from the Babylonish captivity did they either worship there, or mark the spot with any architectural forms, though after that epoch we find abundant traces of a tendency towards that especial form of Turanian idolatry. But even then the adornment of their tombs with architectural magnificence cannot be traced back to an earlier period than the time of the Romans; and all that we find marked with splendour of this class was the work of that people, and stamped with their peculiar forms of Art.

Painting and sculpture were absolutely forbidden to the Jews because they were Turanian arts, and because their practice might lead the people to idolatry, so that these nowhere existed: though we cannot understand a people with any mixture of Turanian blood who had not an eye for colour, and a feeling for beauty of form, in detail at least. Music alone was therefore the one æsthetic art of the Semitic races, and, wedded to the lyric verse, seems to have influenced their feelings and excited their passions to an extent unknown to other nations; but to posterity it cannot supply the place of the more permanent arts, whose absence is so much felt in attempting to realize the feelings or aspirations of a people like this.[1]

As regards the useful arts, the Semites were always more pastoral than agricultural, and have not left in the countries they inhabited any traces of such hydraulic works as the earlier races executed; but in commerce they excelled all nations. The Jews—from their inland situation, cut off from all access to the sea—could not do much in foreign trade; but they always kept up their intercourse with Assyria. The Phœnicians traded backwards and forwards with every part of the Mediterranean, and first opened out a knowledge of the Atlantic; and the Arabs first commenced, and for long afterwards alone carried

[1] All round the shores of the Mediterranean are found the traces of an art which has hitherto been a stumbling-block to antiquaries. Egyptian cartouches and ornaments in Assyria, which are not Egyptian; sarcophagi at Tyre, of Egyptian form, but with Phœnician inscriptions, and made for Tyrian kings; Greek ornaments in Syria, which are not Greek; Roman frescoes or ornaments, and architectural details at Carthage, and all over Northern Africa, which however are not Roman. In short, a copying art something like our own, imitating everything, understanding nothing. I am indebted to my friend Mr. Franks for the suggestion that all this art may be Phœnician, in other words, Semitic, and I believe he is right.

on the trade, with India. From the earliest dawn of history to the present hour, commerce has been the art which the Semitic nations have cultivated with the greatest assiduity, and in which they consequently have attained the greatest, and an unsurpassed success.

In Asia and in Africa at the present day, all the native trade is carried on by Arabs; and it need hardly be remarked that the monetary transactions of the rest of the world are practically managed by the descendants of those, who, one thousand years before Christ, traded from Eziongeber to Ophir.

SCIENCES.

Although, as before mentioned, Astronomy was cultivated with considerable success both in Egypt and Chaldæa, among the more contemplative Turanians, nothing can be more unsatisfactory than the references to celestial events, either in the Bible or the Koran, both betraying an entire ignorance of even the elements of astronomical science, and we have no proof that the Phœnicians were at all wiser than their neighbours in this respect

The Semitic races seem always to have been of too poetical a temperament to excel in mathematics or the mechanical sciences. If there is one branch of scientific knowledge which they may be suspected of having cultivated with success, it is the group of natural sciences. A love of nature seems always to have prevailed with them, and they may have known "the trees, from the cedar which is in Lebanon to the hyssop that springeth out of the wall, and the names of all the beasts, and the fowls, and the creeping things, and the fishes;" but beyond this we know of nothing that can be dignified by the name of science among the Semitic races. They more than made up however for their deficient knowledge of the exact sciences by the depth of their insight into the springs of human action, and the sagacity of their proverbial philosophy; and, more than even this, by that wonderful system of Theology before which all the Aryan races of the world and many of the Turanian bow at the present hour; and acknowledge it as the basis of their faith, and the source of all their religious aspirations.

IV.—CELTIC.

It is extremely difficult to write anything very precise or very satisfactory regarding the Celtic races, for the simple reason that, within the limits of our historic knowledge they never lived sufficiently long apart from other races to develope a distinct form of nationality, or to create either a literature or a polity by which they could be certainly recognised. In this respect they form the most marked contrast with the Semitic races. Instead of wrapping themselves up within the

bounds of most narrow exclusiveness, the Celt everywhere mixed freely with the people among whom he settled, and adopted their manners and customs with a carelessness that is startling; while, at the same time, he retained the principal characteristics of his race through every change of circumstance and clime.

Almost the only thing that can be predicated of them with certainty is, that they were either the last wave of the Turanians, or, if another nomenclature is preferred, the first wave of the Aryans, who, migrating westward from their parent seat in Asia, displaced the original and more purely Turanian tribes who occupied Europe before the dawn of history. But, in doing this, they seem to have mixed themselves so completely with the races they were supplanting, that it is extremely difficult to say now where one begins or where the other ends.

We find their remains in Asia Minor, whence Ethnologists fancy that they can trace a southern migration along the northern coast of Africa, across the Straits of Gibraltar, into Spain, and thence to Ireland, and recent discoveries of dolmens and cromlechs in Algeria are daily tending to make this more probable.

A more certain and more important migration crossed the Bosphorus, and following the valley of the Danube, threw one branch into Italy, where they penetrated as far south as Rome; while the main body settled in and occupied Gaul and Belgium, whence they peopled Britain, and may have met the southern colonists in the Celtic Island of the west. From this they are now migrating, still following the course of the sun, to carry to the New World the same brilliant thoughtlessness which has so thoroughly leavened all those parts of the Old in which they have settled, and which so sorely puzzles the more matter of fact Aryan tribes with which they have come in contact.

Religion.

It may appear like a hard saying, but it seems nevertheless to be true to assert that no purely Celtic race ever rose to a perfect conception of the unity of the Godhead. It may be that they only borrowed this from the Turanians who preceded them, but whether imitative or innate, their Theology admits of Kings and Queens of Heaven who were mortals on earth. They possess hosts of saints and angels, and a whole hierarchy of heavenly powers of various degrees, to whom the Celt turns with as confiding hope and as earnest prayer as ever Turanian did to the gods of his Pantheon. If he does not reverence the bodies of the departed as the Egyptian or Chinese, he at least adopts the Buddhist veneration for relics, and attaches far more importance to funereal rites than was ever done by any tribe of Aryans.

The Celt is as completely the slave of a casteless priesthood as ever Turanian Buddhist was, and loves to separate it from the rest

of mankind, as representing on earth the hierarchy in heaven, to which, according to the Celtic creed, all may hope to succeed by practice of their peculiar virtues.

To this may be added, that his temples are as splendid, his ceremonials as gorgeous, and the formula as unmeaning as any that ever graced the banks of the Nile, or astonished the wanderer in the vallies of Thibet, or on the shores of the Eastern Ocean.

GOVERNMENT.

It is still more difficult to speak of the Celtic form of government, as no kingdom of this people ever existed by itself for any length of time; and none, indeed, it may be suspected, could long hold together. It may, however, be safely asserted, that no republican forms are possible with a Celtic people, and no municipal institutions ever flourished among them. The only form, therefore, we know of as peculiarly theirs, is despotism; not necessarily personal, but rendered systematic by centralized bureaucratic organizations, and tempered by laws in those states which have reached any degree of stability or civilisation.

Nothing but a strong centralized despotism can long co-exist with a people too impatient to submit to the sacrifices and self denial inherent in all attempts at self government, and too excitable to be controlled, except by the will of the strongest, though it may also be the least scrupulous among them.

When in small bodies they are always governed by a chief, generally hereditary, but always absolute; who is looked up to with awe, and obeyed with a reverence that is unintelligible to the more independent races of mankind.

With such institutions, of course a real aristocracy is impossible; and the restraints of caste must always have been felt to be intolerable. "La carrière ouverte aux talens" is their boast; though not to the same extent as with the Turanians, and the selfish gratification of individual ambition is consequently always preferred with them to the more sober benefit of the general advancement of the community.

MORALS.

If the Celts never were either polygamic or polyandric, they certainly always retained very lax ideas with regard to the marriage vow, and never looked on woman's mission as anything higher than to minister to their sensual gratification. With them the woman that fulfils this quality best always commands their admiration most. Beauty can do no wrong—but without beauty woman can hardly rise above the level of the common herd.

The ruling passion in the mind of the Celt is war. Not like the

exclusive, intolerant Semite, a war of extermination or of proselytism, but war from pure "gaieté de cœur" and love of glory. No Celt fears to die, if his death can gain fame, or add to the stock of his country's glory; nor in a private fight does he fear death or feel the pain of a broken head, if he has had a chance of shooting through the heart or cracking the skull of his best friend at the same time. The Celt's love of excitement leads him frequently into excesses, and to a disregard of truth and the virtues belonging to daily life, which are what really dignify mankind: but his love of glory and of his country often go far to redeem these deficiencies, and spread a halo over even his worst faults, which renders it frequently difficult to blame what we feel in soberness we ought to condemn.

LITERATURE.

If love and war are the parents of song, the bard and the troubadour ought to have left us a legacy of verse that would have filled the libraries of Europe, and so they probably would had not the original Celt been too illiterate to care to record the expressions of his feelings. As it is, nine-tenths of the lyric literature of Europe is of Celtic origin. The Epos and the Drama may belong to the Aryan: but in the art of wedding music to immortal verse, and pouring forth a passionate utterance in a few but beautiful words, the Celtic is only equalled by the Semitic race.

Their remaining literature is of such modern growth, and was so specially copied from what had preceded it, or so influenced by the contemporary effusions of other people, that it is impossible accurately to discriminate what is due to race and what to circumstances. All that can safely be said is, that Celtic literature is always more epigrammatic, more brilliant, and more daring than that of the sober Aryan; but its coruscations neither light to so great a depth, nor last so long as less dazzling productions might do. They may be the most brilliant, but they certainly do not belong to the highest class of literary effort; nor is their effect on the destiny of man likely to be so permanent.

ARTS.

The true glory of the Celt in Europe is his artistic eminence. It is perhaps not too much to assert that without his intervention we should not have possessed in modern times a church worthy of admiration, or a picture or a statue we could look at without shame.

In their arts, too,—either from their higher status, or from their admixture with Aryans,—we escape the instinctive fixity which makes the arts of the pure Turanian as unprogressive as the works of birds or of beavers. Restless intellectual progress characterizes everthing they perform; and had their arts not been nipped in the bud by circumstances over which they had no control, we might have seen something

that would have shamed even Greece, and wholly eclipsed the arts of Rome.

They have not, it is true, that instinctive knowledge of colour which distinguishes the Turanian, nor have they been able to give to music that intellectual culture which has been elaborated by the Aryans: but in the middle path between the two they excel both. They are far better musicians than the former, and far better colourists than the last named races; but in modern Europe Architecture is practically their own. Where their influence was strongest, there Architecture was most perfect; as they decayed, or as the Aryan influence prevailed, the art first languished, and then died.

Their quasi-Turanian theology required Temples almost as grand as those of the Copts or Tamuls; and, like them, they sought to honour those who had been mortals by splendour which mortals are assumed to be pleased with; and the pomp of their worship always surpassed that with which they honoured their Kings. Even more remarkable than this is the fact that they could and did build Tombs such as a Turanian might have envied, not for their size but for their art, and even now can adorn their cemeteries with monuments which are not ridiculous.

When a people are so mixed up with other races as the Celts are in Europe, frequently so fused as to be undistinguishable,—it is almost impossible to speak with precision with regard either to their arts or influence. It must in consequence be safer to assert that where no Celtic blood existed there no real art is found, though it is perhaps equally true to assert that not only Architecture, but Painting and Sculpture have been patronized and have flourished in the exact ratio in which Celtic blood is found prevailing in any people in Europe, and has died out as Aryan influence prevails, in spite of their methodical efforts to indoctrinate themselves with what must be the spontaneous impulse of genius, if it is to be of any value.

SCIENCES.

Of their sciences we know nothing; till they were so steeped in the civilization of older races that originality was hopeless. Still, in the stages through which the intellect of Europe has yet passed, they have played their part with brilliancy. But now that knowledge is assuming a higher and more prosaic phase, it is doubtful whether the deductive brilliancy of the Celtic mind can avail anything against the inductive sobriety of the Aryan. So long as metaphysics were science, and science was theory, the peculiar form of the Celtic mind was singularly well adapted to see through sophistry, and to guess the direction in which truth might lie. But now that we have only to question nature, to classify her answers, and patiently to record results, its mission seems to have passed away. Truth in all its majesty, and

nature in all her greatness, must now take the place of speculation, with its cleverness, and man's ideas of what might or should be, must be supplanted by the knowledge of God's works as they exist, and the contemplation of the eternal grandeur of the universe which we see around us.

Though these are the highest, they are at the same time the most sober functions of the human mind; and while conferring the greatest and most lasting benefit, not only on the individual who practises them, but also on the human race, they are neither calculated to gratify personal vanity, nor to reward individual ambition.

Such pursuits are not, therefore, of a nature to attract or interest the Celtic races, but must be left to those who are content to sink their personality in seeking the advantage of the common weal.

V.—ARYAN.

According to their own chronology, it seems to have been about the year 3101 B.C. that the Aryans crossed the Indus and settled themselves in the country between that river and the Jumna, since known among themselves as Arya Varta, or the Country of the Just, for all succeeding ages.

More than a thousand years afterwards we find them, in the age of the Ramayana, occupying all the country north of the Vindya range, and attempting the conquest of the southern country,—then, as now, occupied by Turanians,—and penetrating as far as Ceylon.

Eight hundred years later we see them in the Mahabharata, having lost much of their purity of blood, and adopting many of the customs and much of the faith of the people they were settled amongst; and three centuries before Christ we find they had so far degenerated as to accept, almost without a struggle, the religion of Buddha; which, though no doubt a reform, and an important one, on the Anthropic doctrines of the pure Turanians, was still essentially a faith of a Turanian people; congenial to them, and to them only.

Ten centuries after Christ, when the Moslems came in contact with India, the Aryan was a myth. The religion of the earlier people was everywhere supreme, and with only a nominal thread of Aryanism running through the whole, just sufficient to bear testimony to the prior existence of a purer faith, but not sufficient to leaven the mass to any appreciable extent.

The fate of the western Aryans differed essentially from that of those who wandered eastward. Theoretically we ought to assume, from their less complex language and less pure faith, that they were an earlier offshoot; but it may be that in the forests of Europe they lost for a while the civilized forms which the happier climate of Arya Varta enabled the others to retain; or it may be that the contact with the

more nearly equal Celtic races had mixed the language and the faith of the western races, before they had the opportunity or the leisure to record the knowledge they brought with them.

Be this as it may, they first appear prominently in the western world in Greece, where, by a fortunate union with the Pelasgi, a people apparently of Turanian race, they produced a civilization not purely Aryan, and somewhat evanescent in its character, but more brilliant, while it lasted, than anything the world had seen before, and, in certain respects, more beautiful than anything that has illumined it since their time.

They next sprang forth in Rome, mixed with the Turanian Etruscans and the powerful Celtic tribes of Italy; and lastly in Northern Europe, where they are now working out their destiny, but to what issue the future only can declare.

The essential difference between the eastern and western migration is this: that in India the Aryans have sunk gradually into the arms of a Turanian people till they have lost their identity, and with it all that ennobled them when they went there, or could enable them now to influence the world again.

In Europe they found the country cleared of Turanians by the earlier Celts; and, mingling their blood with these more nearly allied races they have raised themselves to a position half way between the two. Where they found the country unoccupied they have remained so pure that, as their number multiplies they may perhaps regain something of the position they had temporarily abandoned, and something of that science which, it may be fancied, mankind only knew in their primeval seats.

RELIGION.

What then was the creed of the primitive Aryans? So far as we can now see, it was the belief in one great ineffable God - so great that no human intellect could measure his greatness, - so wonderful that no human language could express his qualities, pervading everything that was made,- ruling all created things, a spirit, around, beyond the universe, and within every individual particle of it. A creed so etherial could not long remain the faith of the multitude and we early find fire, the most etherial of the elements, looked to as an emblem of the Deity. The heavens too received a name, and became an entity; - so did our mother earth. To these succeeded the sun, the stars, the elements,- -but never among the pure Aryans as gods, or as influencing the destiny of man, but as manifestations of His power, and reverenced because they were visible manifestations of a Being too abstract for an ordinary mind to grasp. Below this the Aryans never seem to have sunk.

With a faith so elevated of course no temple could be wanted; no

human ceremonial could be supposed capable of doing honour to a deity so conceived, nor any sacrifice acceptable to him to whom all things belonged. With the Aryans worship was a purely domestic institution; prayer the solitary act of each individual man, standing alone in the presence of an omniscient deity. All that was required was that man should acknowledge the greatness of God, and his own comparative insignificance; should express his absolute trust and faith in the beneficence and justice of his God, and a hope that he might be enabled to live so pure and so free from sin, as to deserve such happiness as this world can afford, and be enabled to do as much good to others as it is vouchsafed to man to perform.

A few insignificant formulæ served to mark the modes in which these subjects should recur. The recitation of a time honoured hymn refreshed the attention of the worshipper, and the reading of a few sacred texts recalled the duties it was expected he should perform. With these simple ceremonies the worship of the Aryans seems to have begun and ended.

Even in later times, when their blood had become less pure, and their feelings were influenced by association with those among whom they resided, the religion of the Aryans always retained its intellectual character. No dogma was ever admitted that would not bear the test of reason, and no article of faith was ever assented to which seemed to militate against the supremacy of intellect over all feelings and passions. In all their wanderings they were always prepared to admit the immeasurable greatness of the one incorporeal deity, and the impossibility of the human intellect approaching or forming any adequate conception of His majesty.

When they abandoned the domestic form of worship, they adopted the congregational and then not so much with the idea that it was pleasing to God as in order to remind each other of their duties, to regulate and govern the spiritual wants of the community, and to inculcate piety towards God, and charity towards each other.

It need hardly be added that superstition is impossible with minds so constituted, and that science must always be the surest and the best ally of a religion so pure and exalted, which is based on a knowledge of God's works, a consequent appreciation of their greatness, and an ardent aspiration towards that power and goodness which the finite intellect of man can never hope to reach.

Government.

The most marked characteristics of the Aryans is their innate passion for self government. If not absolutely republican, the tendency of all their institutions, at all times, has been towards that form, and in almost the exact ratio to the purity of the blood do they adopt this

form of autocracy. If kingly power was ever introduced among them, it was always in the form of a limited monarchy; never the uncontrolled despotism of the other races; and every conceivable check was devised to prevent encroachments of the crown, even if such were possible among a people so organized as the Aryans always have been.

With them every town was a municipality, every village a little republic, and every trade a separate self-governing guild. Many of these institutions have died out, or else fallen into neglect, in those communities where equal rights and absolute laws have rendered each individual a king in his own person, and every family a republic in itself.

The village system which the Aryans introduced into India is still the most remarkable of its institutions. Those little republican organisms have survived the revolutions of fifty centuries. Neither the devastations of war nor the indolence of peace seems to have affected them. Under Brahmin, Buddhist, or Moslem, they remain the same unchanged and unchangeable institutions, and neither despotism nor anarchy has been able to alter them. They alone have saved India from sinking into a state of savage imbecility, under the various hordes of conquerors who have at times overrun her; and they, with the Vedas and the laws afterwards embodied by Menu, alone remain as records of the old Aryan possessors of the Indian peninsula.

Municipalities, which are merely an enlargement of the Indian village system, exist wherever the Romans were settled, or where the Aryan races exist in Europe; and though guilds are fast losing their significance, it was the Teutonic guilds that alone checked and ultimately supplanted the feudal despotisms of the Celts.

Caste is another institution of these races, which has always more or less influenced all their actions. Where their blood has become so impure as it is in India, caste has degenerated into an abuse, but where it is a living institution, it is perhaps as conducive to the proper regulation of society as any with which we are acquainted. The one thing over which no man can have any control is the accident of his birth; but it is an immense gain to him that he should be satisfied with the station in which he finds himself, and content to do his duty in the sphere in which he was born. Caste, properly understood, never interferes with the accumulation of wealth or power within the limits of the class, and only recognizes the inevitable accident of birth; while the fear of losing caste is one of the most salutary checks which has been devised to restrain men from acts unworthy of their social position. It is an enormous gain to society that each man should know his station, and be prepared to perform the duties belonging to it, without the restless craving of a selfish ambition that would sacrifice everything for the sake of the personal aggrandizement of the individual. It is far better to acknowledge that there is no sphere in life in which man may not

become as like unto the gods as in any other sphere; and it is everywhere better to respect the public good rather than to seek to gratify personal ambition.

The populations of modern Europe have become so mixed that neither caste nor any other Aryan institution now exists in its pristine purity; but in the ratio in which a people is Aryan do they possess an aristocracy and municipal institutions; and, what is almost of more importance, in that ratio are the people prepared to respect the gradations of caste in society, and to sacrifice their individual ambition to the less brilliant task of doing all the good that is possible in the spheres in which they have been placed.

It is true and so has been found, that an uncontrolled despotism is a sharper, a quicker, and a better tool for warlike purposes, or where national vanity is to be gratified by conquest or the display of power, but the complicated and it may be clumsy institutions of the Aryan are far more lasting and more conducive to individual self-respect, and far more likely to add to the sum of human happiness, and tend more clearly to the real greatness and moral elevation of mankind, than any human institution we are yet acquainted with.

So far as our experience now goes, the division of human society into classes or castes is not only the most natural concomitant of the division of labour, but is also the most beneficent of the institutions of man: while the organization of a nation into self-governing municipalities is not only singularly conducive to individual well being, but renders it practically indestructible by conquest, and even imperishable through lapse of time. These two are the most essentially characteristic institutions of the Aryans.

Morals.

In morals the Aryans were always monogamic, and with them alone does woman always assume a perfect equality of position; mistress of her own actions till marriage, when married, in theory at least, the equal sharer in the property and in the duties of the household. Were it possible to carry out these doctrines absolutely in practice, they would probably be more conducive to human happiness than any of those enumerated above; but even a tendency towards them is an enormous gain.

Their institutions for self-government, enumerated above, have probably done more to elevate the Aryan race than can well be appreciated. When every man takes, or may take, his share in governing the commonwealth—when every man must govern himself, and respect the independence of his neighbour—men cease to be tools, and become independent reasoning beings. They are taught self respect, and with this comes love of truth—of those qualities which command the respect

of their fellow-men; and they are likewise taught that control of their passions which renders them averse to war; while the more sober occupations of life prevent the necessity of their seeking, in the wildness of excitement, that relief from monotony which so frequently drives other races into those excesses the world has had so often to deplore. The existence of caste, even in its most modified form, prevents individual ambition from having that unlimited career which, among other races, has so often sacrificed the public weal to the ambition of an individual.

LITERATURE.

The Aryan races employed an alphabet at so early a period of their history that we cannot now tell when or how it was introduced among them, and it was, even when we first become acquainted with it, a far more perfect alphabet than that of the Semitic races, though apparently formed on its basis. Nothing in it was dependent on memory. It possessed vowels, and all that was necessary to enunciate sounds with perfect and absolute precision. In consequence of this, and of the perfect structure of their language, they were enabled to indulge in philosophical speculation, to write treatises on grammar and logic, and generally to assume a literary position which other races never attained to.

History with them was not a mere record of dates or collection of genealogical tables but an essay on the polity of mankind, to which the narrative afforded the illustration, while their poetry had always a tendency to assume more a didactic than a lyric form. It is among the Aryans that the Epos first rose to eminence, and the Drama was elevated above a mere spectacle, but even in these the highest merit sought to be attained was that they should represent vividly events which might have taken place, even if they never did happen among men: while the Celts and the Semites delight in wild imaginings which never could have existed except in the brain of the poet. When the blood of the Aryan has been mixed with that of other races, they have produced a literature eminently imaginative and poetic: but in proportion to their purity has been their tendency towards a more prosaic style of composition. The aim of the race has always been the attainment of practical common sense, and the possession of this quality is their pride and boast, and justly so, but it is unfortunately antagonistic to the existence of an imaginative literature, and we must look to them more for eminence in works on history and philosophy than in those which require imagination or creative power.

ART.

These remarks apply with more than double force to the Fine Arts than to verbal literature. In the first place a people possessing such a power of phonetic utterance never could look on a picture or statue as more than a mere subsidiary illustration of the written text. A painting may represent vividly one view of what took place at one moment of time, but a written narrative can deal with all the circumstances and link it to its antecedents and effects. A statue of a man cannot tell one-tenth of what a short biography will make plain; and an ideal statue or ideal painting may be a pretty Celtic plaything, but it is not what Aryans hanker after.

With Architecture the case is even worse. Convenience is the first thing which the practical common sense of the Aryan seeks, and then to gain what he desires by the readiest and the easiest means. This done, why should he do more? If, induced by a desire to emulate others, he has to make his building ornamental, he is willing to copy what experience has proved to be successful in former works, willing to spend his money and to submit to some inconvenience; but in his heart he thinks it useless, and he neither will waste his time in thinking on the subject, nor apply those energies of his mind to its elaboration, without which nothing great or good was ever done in Art.

In addition to this, the immaterial nature of their faith has always deprived the Aryan races of the principal incentive to architectural magnificence[1]. The Turanian and Celtic races always have the most implicit faith in ceremonial worship and in the necessity of architectural splendour as its indispensable accompaniment. On the other hand, the more practical Aryan can never be brought to understand that prayer is either more sincere or is more acceptable in one form of house than in any other. He does not feel that virtue can be increased or vice exterminated by the number of bricks or stones that may be heaped on one another, or the form in which they may be placed; nor will his conception of the Deity admit of supposing that He can be propitiated by palaces or halls erected in honour of Him, or that a building in the Middle Pointed Gothic is more acceptable than one in the Classic or any other style.

This want of faith may be reasonable, but it is fatal to poetry in Art, and, it is feared, will prevent the Aryans from attaining more excellence in Architectural Art at the present time than they have done in former ages.

It is also true that the people are singularly deficient in their

[1] Had there been no Pelasgi in Greece, there probably would have been no Architecture of the Grecian period.

appreciation of colours. Not that actual colour-blindness is more common with them than with other races, but the harmony of tints is unknown to them. Some may learn, but none feel it; it is a matter of memory and an exercise of intellect, but no more. So, too, with form. Other—even savage—races cannot go wrong in this respect. If the Aryan is successful in art, it is generally in consequence of education, not from feeling; and, like all that is not innate in man, it yields only a secondary gratification, and fails to impress his brother man, or to be a real work of Art.

From these causes the ancient Aryans never erected a single building in India when they were pure, nor in that part of India which they colonized even after their blood became mixed; and we do not now know what their style was or is, though the whole of that part of the peninsula occupied by the Turanians, or to which their influence ever extended, is, and always was, covered by buildings, vast in extent and wonderful from their elaboration. This, probably, also is the true cause of the decline of Architecture and other arts in Europe and in the rest of the modern world. Wherever the Aryans appear Art flies before them, and where their influence extends utilitarian practical common sense is assumed to be all that man should aim at. It may be so, but it is sad to think that beauty cannot be combined with sense.

Music alone, as being the most phonetic of the fine arts, has received among the Aryans a degree of culture denied to the others; but even here the tendency has been rather to develop scientific excellence than to appeal to the responsive chords of the human heart. Notwithstanding this, its power is more felt and greater excellence is attained in this science than in any other. It also has escaped the slovenly process of copying with which the unartistic mind of the Aryans has been content to fancy it was creating Art in other branches.

If, however, these races have been so deficient in the fine arts, they have been as excellent in all the useful ones. Agriculture, manufactures, commerce, ship-building, and road-making, all that tends to accumulate wealth or to advance material prosperity, has been developed to an extent as great as it is unprecedented, and promise to produce results which as yet can only be dimly guessed at. A great, and, so far as we can see, an inevitable revolution, is pervading the whole world through the devotion of the Aryan races to these arts. We have no reason for supposing it will be otherwise than beneficial, however much we may feel inclined to regret that the beautiful could not be allowed to share a little of that worship so lavishly bestowed on the useful.

Sciences.

It follows, as a matter of course, that, with minds so constituted, the Aryans should have cultivated science with earnestness and success. The only beauty they, in fact, appreciated was the beauty of scientific truth; the only harmony they ever really felt was that of the laws of nature; and the only art they ever cared to cultivate was that which grouped these truths and their harmonies into forms which enabled them to be easily grasped and appreciated. Mathematics always had especial charms to the Aryan mind; and, more even than this, astronomy was always captivating. So, also, were the mechanical, and so, too, the natural sciences. It is to the Aryans that Induction owes its birth, and they probably alone have the patience and the sobriety to work it to its legitimate conclusions.

The true mission of the Aryan races appears to be to pervade the world with the useful and industrial arts, and so tend to reproduce that unity which has long been lost, to raise man, not by magnifying his individual cleverness, but by accumulating a knowledge of the works of God, so tending to make him a greater and wiser, and at the same time a humbler and a more religious servant of his Creator.

CONCLUSION

When Auguste Comte proposed that classification which made the fortune of his philosophy, when he said that all mankind passed through the theological state in childhood, the metaphysical in youth and the philosophical or positive in manhood,- and ventured to extend this discovery to nations, he had a glimpse, as others have had before him, of the beauty of the great harmony which pervades all created things. But he had not philosophy enough to see that the one great law is so vast and so remote, that no human intellect can grasp it, and that it is only the little fragments of that great scheme which are found everywhere which man is permitted to understand.

Had he known as much of ethnographical as he did of mathematical science, he would have perceived that there is no warrant for this daring generalization; but that nations, in the states which he calls the theological, the metaphysical, and the philosophical, exist now and co-existed through all the ages of the world to which our historical knowledge extends.

What the Egyptians were when they first appeared on the scene they were when they perished under the Greek and Roman sway;- what the Chinese always were they now are;—the Jews and Arabs are unchanged to this day,—the Celts are as daringly speculative and as blindly superstitious now as we always found them;—and the Aryans

of the Vedas or of Tacitus were very much the same sober, reasoning, unimaginative, and unartistic people as they are at this hour. Progress among men, as among the animals, seems to be achieved not so much by advances made within the limits of the group, as by the supercession of the less finely organized beings by those of a higher class, – and this, so far as our knowledge extends, is accomplished neither by successive creations, nor by the gradual development of one species out of another, but by the successive prominent appearances of previously developed, though partially dormant creations.

Ethnographers have already worked out this problem to a great extent, and arrived at a very considerable degree of certainty, through the researches of patient linguistic investigators. But language is in itself too impalpable ever to give the science that tangible, local reality, which is necessary to its success; and it is here that Archæology comes so opportunely to its aid. What men dug or built remains where it was first placed, and probably retains the first impressions it received; and so fixes the era and standing of those who called it into existence. so that even those who cannot appreciate the evidence derived from grammar or from words, may generally see at a glance what the facts of the case really are.

It is even more important that such a science as Ethnology should have two or more methods of investigation at its command. Certainty can hardly ever be attained by only one process, unless checked and elucidated by others, and nothing can therefore be more fortunate than the possession of so important a sister science as that of Archæology to aid in the search after scientific truth

If Ethnology may thus be so largely indebted to Archæology, the converse is also true, and she may pay back the debt with interest. As Archæology and Architecture have hitherto been studied, they, but more especially the latter, have been little more than a dry record of facts and measurements, interesting to the antiquary, to the professional architect, or to the tourist, who finds it necessary to get up a certain amount of knowledge on the subject; but the utmost that has hitherto been sought to be attained is a certain knowledge of the forms of the art, while the study, as that of one of the most important and most instructive of the sciences connected with the history of man, has been as a rule neglected.

Without this the study of Architecture is a mere record of bricks and stones, and of the modes in which they were heaped together for man's use. Considered in the light of a historical record, it acquires not only the dignity of a science, but especial interest as being one of those sciences which are most closely connected with man's interests and feelings, and the one which more distinctly expresses and more clearly records what man did and felt in previous ages, than any other study we are acquainted with

From this point of view, not only every tomb and every temple but even the rude monoliths and mounds of savages, acquire a dignity and interest to which they have otherwise no title; and man's works become not only man's most imperishable record, but one of the best means we possess of studying his history, or of understanding his nature or his aspirations.

Rightly understood, Archæology is as useful as any other branch of science or of art, in enabling us to catch such glimpses as are vouchsafed to man of the great laws that govern all things; and the knowledge that this class of man's works is guided and governed by those very laws, and not by the chance efforts of unmeaning minds, elevates the study of it to as high a position as that of any other branch of human knowledge.

HISTORY OF ARCHITECTURE.

PART I.—ANCIENT ARCHITECTURE.

INTRODUCTORY

So long as the geographer confines himself to mapping out the different countries of the world, or smaller portions of the earth's surface, he finds no difficulty in making a projection which shall correctly represent the exact relative position of all the various features of the land or sea. But when he attempts to portray a continent, some distortion necessarily results; and when he undertakes a hemisphere, both distortion and exaggeration become inevitable. It has consequently been found necessary to resort to some conventional means of portraying the larger surfaces of the globe. These avowedly do not represent correctly the forms of the countries portrayed, but they enable the geographer to ascertain what their distances or relative positions are by the application of certain rules and formulæ of no great complexity.

The same thing is true of history. So long as the narrative is confined to individual countries or provinces, it may be perfectly consecutive and uninterrupted; but when two or three nations are grouped together, frequent interruptions and recapitulations become necessary; and when universal history is attempted, it seems impossible to arrange the narrative so as to prevent these from assuming very considerable importance. The utmost that can be done is to devise some scheme which shall prevent the repetition from leading to tediousness, and enable the student to follow the thread of any portion of the narrative without confusion or the assumption of any special previous knowledge on his part.

Bearing these difficulties in mind, it will probably be found convenient to divide the whole history of architecture into four great divisions or parts.

The first, which may be called "Ancient or Heathen Art," to comprehend all those styles which prevailed in the old world from the dawn of history in Egypt till the disruption of the Roman Empire by the removal of the capital from Rome to Constantinople in the fourth century.

The second to be called either "Mediæval," or more properly "Christian Art." This again subdivides itself into three easily-understood divisions. 1. The Romanesque, or Transitional style, which prevailed between the ages of Constantine and Justinian; 2. The Gothic, or Western Christian; and 3. The Byzantine, or Eastern Christian style. Either of these two last might be taken first without incongruity; but on the whole, it will be convenient, first to follow the thread of the history of Gothic art, and return to take up that of the Byzantine afterwards. The Western styles form a complete and perfect chapter in themselves, based directly on the Romanesque, but borrowing very little and lending less to any other style during their existence. They also perished earlier, having died out in the 16th century, while the Byzantine continued to be practised within the limits of the present century in Russia and other Eastern countries.

Another reason for taking the Gothic styles first is that the Saracenic spring directly from the Byzantine, and according to this arrangement would follow naturally after it.

The third great division of the subject I would suggest might conveniently be denominated "Pagan."[1] It would comprise all those minor miscellaneous styles not included in the two previous divisions. Commencing with the Sassanian and Saracenic, it would include the Buddhist, Hindoo, and Chinese styles, the Mexican and Peruvian, and lastly that mysterious group which for want of a better name it may be convenient to call the "Celtic styles." No very consecutive arrangement can be formed for these. Nor is it necessary; they generally have little connexion with each other, and are so much less important than the others that their mode of treatment is of far less consequence, and, in the present state of our knowledge regarding them, a slight degree of reiteration may be considered advantageous.

The fourth and last great division is that of the "Modern or Copying styles of Architecture," meaning thereby those which are the products

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[1] The derivation of the two words Heathen and Pagan seems to indicate the relative importance of these two terms very much in the degree it is here wished to express. Heathen is generally understood to be derived from *ἔθνος*, a nation or people, and Pagan from *Pagus, Pagani*, a village, or villagers. Both are used here not as terms of reproach, but as indicative of their being non-Christian, which is what it is wished to express, and was the original intention of the terms.

of the renaissance of the classical styles, that marked the epoch of the cinquecento period. These have since that time prevailed generally in Europe to the present day, and are now making the tour of the world Within the limits of the present century it is true that the copying of the classical styles has to some extent been superseded by a more servile imitation of those of mediæval art. The forms have consequently changed, but the principles remain the same.

It would of course be easy to point out minor objections to this or to any scheme, but on the whole it will be found to meet the exigencies of the case as we now know it, as well or perhaps better than any other. The greatest difficulty in carrying it out is to ascertain how far the geographical arrangement should be made to supersede the chronological and ethnographical. Whether, for instance, Italy should be considered as a whole, or if the buildings of the eastern coast should not be described as belonging to the Byzantine, and those of the western coast to the Gothic kingdom? Whether the description of the Temple at Jerusalem should stop short with the rebuilding by Zorobabel, or be continued till its final completion under Herod? If the former course is pursued, we cut in two a perfectly consecutive narrative; if the latter, we get far in advance of our chronological sequence.

In both of these instances, as in many others, it is a choice of difficulties, and where frequently the least strictly logical mode of proceeding may be found the most convenient.

After all, the real difficulty lies not so much in arranging the materials as in weighing the relative importance to be assigned to each division. In wandering over so vast a field it is difficult to prevent personal predilection from interfering with purely logical criticism. Although architecture is the most mechanical of the fine arts, and consequently the most amenable to scientific treatment, still as a fine art it must be felt to be appreciated and when the feelings come into play the reason is sometimes in danger. Though strict impartiality has been aimed at in assigning the true limits to each of the divisions above pointed out, few probably will be of the same opinion as to the degree of success which has been achieved in the attempt.

OUTLINE OF EGYPTIAN CHRONOLOGY,

ACCORDING TO MANETHO AND THE MONUMENTS.

OLD KINGDOM OF PYRAMID-BUILDERS.

Dynasty			Years.		B.C.
1st dynasty		... Thinite	252	Accession of Menes, 1st king	3906
2nd	,,	... ,,	302		
3rd	,,	... Memphite	214		
4th	,,	... ,,	281		
5th	,,	... Elephantine	248		
6th	,,	... Memphite	203		
7th	,,	... ,,	70 days?		
8th	,,	... ,,	146		
9th	,,	... Heracleopolite	100?		
10th	,,	... ,,	185		

Ten dynasties of kings, reigning sometimes contemporaneously in Upper and in Lower Egypt; at other times both divisions were united under one king.

The total duration of their reigns, as nearly as can be estimated, was 1335 years.

FIRST THEBAN KINGDOM.

11th	,,	... Thebans	43	Commenced	2571
12th	,,	... ,,	246 over Upper, 188 over Lower Egypt.		

SHEPHERD INVASION. 2340

13th	,,	... Diospolites	453
14th	,,	... Xoite	484
15th	,,	... Shepherds	284
16th	,,	... Hellenes	518
17th	,,	... Shepherds	151
			435

Five dynasties of Shepherd or native kings reigning or existing contemporaneously in four series in different parts of Egypt during 511 years.

GREAT THEBAN KINGDOM.

18th	,,	... Theban	393	Over all Egypt	1829
19th	,,	... ,,	194		1436
				Exode of Jews, 1312.	
20th	,,	... ,,	135		1242
21st	,,	... Tanite	130		1107
22nd	,,	... Bubastite	120		977
				Temple of Jerusalem destroyed, 972.	
23rd	,,	... Tanite	89		857
24th	,,	... Saite	44		768
25th	,,	... Ethiopian	44		724
26th	,,	... Saite	155		680

Persian Invasion under Cambyses 526*

* The above scheme of Egyptian Chronology was published by me in the 'True Principles of Beauty in Art,' in 1849; and the data on which it was based were detailed in the Appendix to that work. As there seems to be nothing in the subsequent researches or discoveries which at all invalidates the reasoning on which the table was founded, it is reproduced here as originally set forth.

BOOK I.

EGYPTIAN ARCHITECTURE.

CHAPTER I.

INTRODUCTORY.

In any consecutive narrative of the architectural undertakings of mankind the description of what was done in Egypt necessarily commences the series, not only because the records of authentic history are found in the Valley of the Nile long before the traditions of other nations had assumed anything like tangible consistency, but because, from the earliest dawn down to the time when Christianity struck down the old idolatry, the inhabitants of that mysterious land were essentially and pre-eminently a building race. Were it not for this we should be left with the dry bones of the skeleton of her history, which is all that is left us of the dynasties of Manetho; or with the fables in which ignorant and credulous European travellers expressed their wonder at a civilization they could not comprehend.

As the case now stands, the monuments of Egypt give life and reality to their whole history. It is impossible for any educated man capable of judging of the value of evidence to wander among the Pyramids and tombs of Memphis, the Temples of Thebes, or the vast structures erected by the Ptolemys or Cæsars, and not to feel that he has before him a chapter of history more authentic than we possess of any nation at all approaching it in antiquity, and a picture of men and manners more vivid and more ample than remains to us of any other people who have passed away.

As we wander among the tombs or temples of Egypt we see the very chisel-marks of the mason, and the actual colours of the painter which were ordered by a Suphis or a Rhamses, and we stand face to face with the works the progress of which they watched, and which they designed in order to convey to posterity what their thoughts and feelings were, and what they desired to record for the instruction of future generations. All is there now, and all who care may learn what these old kings intended should be known by their remotest posterity.

Immense progress has been made in unravelling the intricacies of Egyptian history since the time when Champollion, profiting by the discovery of Young, first translated the hieroglyphical in-

scriptions that cover the walls of Egyptian buildings. Of late years it has been too frequently assumed that his works, with those of Rossilini, of Wilkinson and Lepsius, and the numerous other authors who have applied themselves to Egyptology, had told us all we are ever likely to know of her history. In so far as the epochs of the great Pharaonic dynasties of Thebes are concerned this may be partially true, but it is only since M. Marriotte undertook the systematic exploration of the great Necroplis of Memphis that we have been enabled to realize the importance of the older dynasties, and become aware of the completeness of the records they have left behind them. Much as we have learned during the last forty years, recent explorations have taught us that the soil of Egypt is not half exhausted yet; and every day our knowledge is assuming a consistency and completeness as satisfactory as it is wonderful.

Although there are still minor differences of opinion with regard to the details of Egyptian chronology, still the divergences between the various systems proposed are gradually narrowing in extent. The sequence of events is certain, and accepted by all. The initial date, and the adjustments depending on it, are alone in dispute. The truth is that every subsequent step in the investigation has tended more and more to prove the correctness of the data furnished by the lists of Manetho, and the only important question is, "what is Manetho?" His work is lost. The only real extracts we have from the original are those in 'Josephus contra Apion.' The lists in Eusebius and Syncellus or Africanus have avowedly been adjusted to suit preconceived theories of Biblical chronology; but on the whole a great preponderance of evidence seems in favour of assuming that he really intended to fix the year 3906 as the initial year of the reign of Menes,[1] or some year within a very short distance of that date. Some years ago this would have seemed to suffice, but so many new monuments have been disinterred of late, so many new names of kings added to our lists, that the tendency is now rather to extend than to contract this limit of duration.

Be this as it may, what we really do know absolutely is that there was an old kingdom of pyramid-builders, comprising the first ten dynasties of Manetho, who reigned at Memphis; that these, after a period of decadence, were superseded by kings of a different race coming from the south; and after a short period of glory, these were conquered by an Asiatic race of hated Shepherd kings.

After five centuries of foreign domination, the Shepherds in their turn were driven out, and the new kingdom founded. This, after witnessing the glories of the 18th and 19th dynasties, declined during the next seven dynasties till they were struck down by the Persian Cambyses.

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[1] Syncellus, Chron. p. 98, ed. Dindorff, Bonn, 1829.

A third period of architectural magnificence arose with the Ptolemies, and was continued by the Cæsars on nearly the same scale of magnificence as the second kingdom; but wanting its exuberant nationality, and far below the quiet grandour of the earlier epoch.

In counting backwards the dates of these dynasties, the first authentic synchronism we meet with is that of Shishak, the first king of the 22nd dynasty, cotemporary with Rehoboam, about 970 B.C.

The next is the Exode of the Jews, which took place 1312 B.C., under the reign of Amenoph, the third king of the 19th dynasty of Manetho. Many would place it earlier, but none probably would bring that event down to a more modern date.

From this date Josephus tells us that Manetho counted 518 years to the expulsion of the Shepherds and 511 for the duration of their sojourn in Egypt,[1] we thus get back to 2340 for the first year of Salatis. There then remain only fifteen centuries and a half, in which we have to arrange the two great Theban dynasties (the 11th and 12th), which reigned for more than two centuries over the whole of Egypt, while the 12th seems to have extended some distance into the period occupied by the Shepherds. We are thus left with little more than 1300 years over which to spread the ten first dynasties, notwithstanding that some 60 or 70 of their royal sepulchral pyramids still adorn the banks of the Nile, and we have many names to which no tomb can be attached, and many pyramids may have perished during the 5000 years which have elapsed since the greater number of them were erected.

Long as these periods may to some appear they are certainly the shortest that any one familiar with the recent progress of Egyptian research would be willing to assign to them. But in whatever light they may be viewed, they sink into utter insignificance when compared with the periods that must have elapsed before Egypt could have reached that stage of civilization, in which we find her when her existence first dawns upon us. If one point in Egyptian history is proved with more certainty than another it is that the great pyramids of Gizeh were erected by the kings of the 4th dynasty, and it seems impossible to find room for the now ascertained facts of Egyptian chronology, unless we place their erection at least 5000 years before the Christian era.

No one can possibly examine the interior of the Great Pyramid without being struck with astonishment at the wonderful mechanical skill displayed in its construction. The immense blocks of granite brought from Syene—a distance of 500 miles—polished like glass, and so fitted that the joints can hardly be detected. Nothing can be more wonderful than the extraordinary amount of knowledge displayed in

[1] Josephus contra Apion, i. 14, 16 and 26.

the construction of the discharging chambers over the roof of the principal apartment, in the alignment of the sloping galleries, in the provision of ventilating shafts, and in all the wonderful contrivances of the structure. All these, too, are carried out with such precision, that, notwithstanding the immense superincumbent weight, no settlement on any part can be detected to the extent of an appreciable fraction of an inch. Nothing more perfect, mechanically, has ever been erected since that time; and we ask ourselves in vain, how long it must have taken before men acquired such experience and such skill, or were so perfectly organised, as to contemplate and complete such undertakings.

Around the base of the pyramid are found numerous structural tombs, whose walls bear the cartouche of the same king - Suphis — whose name was found by Colonel Howard Vyse in one of the previously unopened chambers of the Great Pyramid.[1] These are adorned with paintings so numerous and so complete, as to enable us to realize with singular completeness the state of Egyptian society at that early period.

On their walls the owner of the tomb is usually represented seated, offering first-fruits on a simple table altar to an unseen god. He is generally accompanied by his wife, and surrounded by his stewards and servants, who enumerate his wealth in horned cattle, in asses, in sheep and goats, in geese and ducks. In other pictures some are ploughing and sowing, some reaping or threshing out the corn, while others are tending his tame monkeys or cranes, and other domesticated pets. Music and dancing add to the circle of domestic enjoyments, and fowling and fishing occupy his days of leisure. No sign of soldiers or of warlike strife appear in any of these pictures,[2] no arms, no chariots or horses. No camels suggest foreign travel. Everything there represented speaks of peace at home and abroad, of agricultural wealth and consequent content. In all these pictures the men are represented with an ethnic and artistic truth that enables us easily to recognise their race and station. The animals are not only easily distinguishable, but the characteristic peculiarities of each species is seized with a power of generalization seldom if ever surpassed; and the hieroglyphic system which forms the legend and explains the whole, was as complete and perfect then as at any future period.

More striking than even the paintings are the portrait-statues which have recently been discovered in the secret recesses of these tombs; nothing more wonderfully truthful and realistic has been done

[1] Vyse, 'Operations on the Pyramids at Gizeh in 1837,' vol. i. p. 279, et seq.

[2] At Wady Meghara, in the Sinaitic peninsula, a king of the 4th dynasty is represented as slaying an Asiatic enemy. It is the only sign of strife which has yet been discovered belonging to this ancient kingdom. Lepsius, Abt. ii., pl 39.

since that time, till the invention of photography, and even that can hardly represent a man with such unflattering truthfulness as these old coloured terra-cotta portraits of the sleek rich men of the pyramid period.

Wonderful as all this maturity of art may be when found at so early a period, the problem becomes still more perplexing when we again ask ourselves how long a people must have lived and recorded their experience before they came to realise and aspire to an eternity such as the building of these pyramids shows that they sacrificed everything to attain. One of their great aims was to preserve the body intact for 3000 years, in order that the soul might again be united with it when the day of judgment arrived. But what taught them to contemplate such periods of time with confidence, and, stranger still, how did they learn to realise so daring an aspiration?

Nor is our wonder less when we ask ourselves how it happened that such a people became so thoroughly organized at that early age as to be willing to undertake the greatest architectural works the world has since seen in honour of one man from among themselves? A king without an army, and with no claim, so far as we can see, to such an honour beyond the common consent of all, which could hardly have been obtained except by the title of long inherited services acknowledged by the community at large.

It is possible there may have been nations as old and as early civilised as the Egyptians, but they were not builders, and their memory is lost. It is to their architecture alone that we owe the preservation of what we know of this old people. And it is the knowledge so obtained that adds such interest to the study of their art.

In the present state of our knowledge it may seem an idle speculation to suggest that the Egyptian and Chinese are two fragments of one great primordial race, widely separated now by the irruption of other Turanian and Aryan races between them but this at least is certain, that in manners and customs, in arts and polity, in religion and civilization, these two people more closely resemble one another than any other two nations which have existed since even when avowedly of similar race and living in proximity to one another.

At the earliest period at which Chinese history opens upon us, we find the same amount of civilization maintaining itself utterly unprogressively to the present day The same peaceful industry and agricultural wealth accompanied by the same outwardly pleasing domestic relations and apparent content. The same exceptional mode of writing. The same want of power to assimilate with surrounding nations. Both hating war, but reverencing their kings, and counting their chronology by dynasties exactly as the Egyptians have always done. Their religions

seem wonderfully alike, and both are characterized by the same fearlessness of death, and the same calm enjoyment in the contemplation of its advent.[1]

In fact there is no peculiarity in the old kingdom of Egypt that has not its counterpart in China at the present day, though more or less modified, perhaps, by local circumstances; and there is nothing in the older system which we cannot understand by using proper illustrations, derived from what we see passing under our immediate observation in the far East. The great lesson we learn from the study of the history of China as bearing on that of Egypt is, that all idea of the impossibility of the recorded events in the latter country is taken away by reference to the other. Neither the duration of the Egyptian dynasties, nor the early perfection of her civilization, or its strange persistency, can be objected to as improbable. What we know has happened in Asia in modern times may certainly have taken place in Africa, though at an earlier period.

[1] By a singular coincidence, China has been suffering from a Hyksos domination of Tartar conquerors, precisely as Egypt did after the period of the Pyramid builders, and, strange to say, for about the same period—five centuries. Had the Taepings been successful, we should have witnessed in China the exact counterpart of what took place in Egypt when the 1st native kings of the 18th dynasty expelled the hated race.

CHAPTER II.

THE PYRAMIDS AND CONTEMPORARY MONUMENTS.

Leaving these speculations to be developed more fully in the sequel, let us now turn to the pyramids—the oldest, largest, and most mysterious of all the monuments of man's art now existing. All those in Egypt are situated on the left bank of the Nile, just beyond the cultivated ground, and on the edge of the desert, and all the principal examples within what may fairly be called the Necropolis of Memphis. Sixty or seventy of these have been discovered and explored, all which appear to be royal sepulchres. This alone, if true, would suffice to justify us in assigning a duration of 1000 years at least to the dynasties of the pyramid-builders, and this is about the date we acquire from other sources.

The three great pyramids of Gizeh are the most remarkable and the best known of all those of Egypt. Of these the first, erected by Cheops, or, as he is now more correctly named, Suphis, is the largest; but the next, by Chephren, his successor, is scarcely inferior in dimensions; the third, that of Mycerinus, is very much smaller, but excelled the two others in this, that it had a coating of beautiful red granite from Syene, while the other two were revêted only with the beautiful limestone of the country. Part of this coating still remains near the top of the second, and Colonel Vyse[1] was fortunate enough to discover some of the coping-stones of the Great Pyramid buried in the rubbish at its base. These are sufficient to indicate the nature and extent of the whole and to show that it was commenced from the bottom and carried upwards, not at the top as it has sometimes been thoughtlessly asserted.

The dimensions of these three, as ascertained by the copings, are as follows:—

	Square of base	Height	Area in square feet	Angle of side	Angle of passage
	Feet	Feet		°	° ′
Cheops	764	480	583,696	51·50	26 41
Chephren ...	707	454	499,849	52·20	25·55
Mycerinus ...	354	218	125,316	51·	26·2[2]

[1] Col. H. Vyse, 'Operations carried on at the Pyramids of Gizeh in 1837.' Lond. 1840-43.

[2] The measures quoted in the text are all taken from the elaborate surveys made by Mr. Perring for Colonel Vyse, which are by far the most complete and correct which have yet been published. It is necessary, however, to warn the reader that Mr. Perring published two sets of measurements, those from actual observation, which are those followed in the text, and another set

From this it will be seen that the area of the Great Pyramid (more than 13 acres) is more than twice the extent of that of St. Peter's at Rome, or of any other building in the world. Its height is equal to the highest spire of any cathedral in Europe; for, though it has been attempted to erect higher buildings, in no instance has this yet been successfully achieved. Even the third pyramid covers more ground than any Gothic cathedral, and the mass of materials it contains far surpasses that of any erection we possess in Europe.

All the pyramids (with one exception) face exactly north, and have their entrance on that side—a circumstance the more remarkable, as the later builders of Thebes appear to have had no notion of orientation, but to have placed their buildings and tombs so as to avoid regularity, and facing in every conceivable direction. Instead of the entrances to the pyramids being level, they all slope downwards—generally at angles of about 26° to the horizon—a circumstance which has led to an infinity of speculation, as to whether they were not observatories, and meant for the observation of the pole star, &c.[1] All these theories, however, have failed, for a variety of reasons it is needless now to discuss; but among others it may be mentioned that the angles are not the same in any two pyramids, though erected within a few years of one another, and in the twenty which were measured by Colonel Vyse they vary from 22° 35' to 34° 5'. The angle of the inclination of the side of the pyramid to the horizon is more constant, varying only from 51° 10' to 52° 32', and in the Gizeh pyramids it would appear that the angle of the passage was intended to have been about one half of this. Beyond this it is difficult to proceed, unless from the following simple calculation we derive an insight into the principles which seem to have guided their designers. Divide the circle into 28 parts, which, as the Egyptians used weeks and lunar reckoning, is by no means an improbable division. Let every 28th part, which will thus be equal to 12·857, be represented by *a*. Multiplying this by 2, 3, 4, and 5, and we obtain thereby very nearly the mean angle of all the different parts of the pyramid.[2] But as no two pyramids follow the same

corrected according to his theory of what they ought to have been, supposing every part to have been set out of an even number of Egyptian cubits. In most instances his theory agrees pretty closely with his observations, but is generally more likely to mislead than guide the reader.

[1] They are situated in latitude 30° N.

	Great Pyramid.	Second Pyramid	Third Pyramid	Angles calculated from the 28th of a circle (*a*).
[2] Angle ADB	51° 20'	52° 21	51° 10'	4*a* = 51·428
" DAG	77 19	75 4	77 38	6*a* = 77·142
" ACB	41 28	42 30	41 18	3*a* = 38·571
" CAF	97 8	94 59	97 23	7½*a* = 96·428
" AEF	58 0	58 24	58 6	4½ = 57·856
" EAF	63 50	62 50	63 46	5*a* = 64·285
Passages	26 33	25 55	27 34	2*a* = 25·714

rule, it is obvious that this or any other explanation if strictly correct as regards one, must fail in being equally applicable to the others.

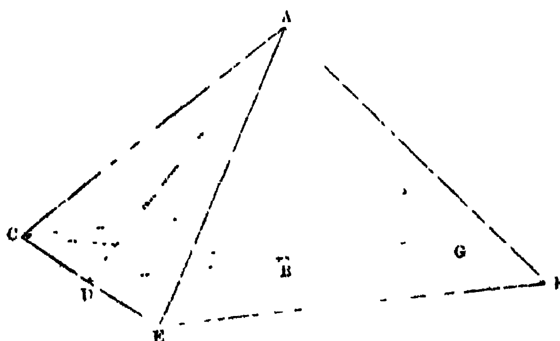
The most plausible theory seems to be, that the faces of the pyramid were intended to be practically 4 equilateral triangles, laid against one another, and meeting at the apex. For instance, in the three great pyramids at Gizeh, the ratios of the sloping edges to the base are as follows:—

	Base.	Length of sloping edge	Difference.
Great Pyramid	764 feet.	720 feet.	44 feet.
Second Pyramid	707 ,,	672 ,,	35 ,,
Third Pyramid	354 ,,	330 ,	24 ,,

It will be observed that the difference is least—about 5 per cent—in the second pyramid, the one which retains the greatest part of its coping, and there may be some error in the measurement of the others derived from a single coping-stone.

As regards any other people than the Egyptians this might be considered a sufficient explanation—all the other parts being multiples or sub-multiples of the angles derived from this fact, but the Egyptians were such excellent mathematicians and such perfect builders in those times, that this can only be considered as an approximate solution of the problem. It is, however, one sufficient for our empirical rule for attaining the general form and dimensions of a pyramid, to use the multiples given in the preceding page.

To the principal dimensions of the Great Pyramid given above, it may be added that the entrance is about 47 ft. 6 in. above the base, on the 15th step or platform. There are in all 203 such steps. Their average height is nearly 2 ft 6 in., but they diminish in height—generally speaking, but not uniformly—towards the top. The summit now consists of a platform 32 ft. 8 in. square, so that about 24 ft. is wanting, the present actual height being 456 ft. It contains 2 chambers above ground, and 1 cut in the rock at a considerable depth below the foundations.



The passages and chambers are worthy of the mass; all are lined with polished granite; and the ingenuity and pains that have been taken to render them solid and secure, and to prevent their being crushed by the superincumbent mass, raise our idea of Egyptian science higher than even the bulk of the building itself could do.

Towards the exterior, where the pressure is not great, the roof is flat, though it is probable that even there the weight is throughout discharged by 2 stones, sloping up at a certain angle to where they meet, as at the entrance. Towards the centre of the pyramid, however, the passage becomes 28 ft. high, and assumes the form of inverted stairs, as shown in the section (fig. 1), till it contracts so much at the top that no pressure can hurt it. Nowhere, however, is this ingenuity more shown than in the royal chamber, which measures 17 ft. 1 in. by 34 ft. 3 in., and 19 ft. in height. The walls are lined and the roof is formed of splendid slabs of Syenite, but above the roof 4 successive chambers, as shown in the annexed section (fig. 2), have been formed, each divided from the other by slabs of granite, polished on their lower surfaces, but left rough on the upper, and above these a 5th chamber is formed of 2 sloping blocks to discharge the weight of the whole. The first of these chambers has long been known; the upper four were discovered and first entered by Colonel Vyse, and it was in one of these that he discovered the name of the founder. This was not engraved as a record, but scribbled in red paint on the stones, apparently as a quarry-mark, or as an address to the king, and accompanied by something like directions for their position in the building. The interest that attaches to these inscriptions consists in the certainty of their being contemporary records, in their proving that Suphis was the founder of the Great Pyramid, and consequently fixing its relative date beyond all possibility of cavil. This is the only really virgin discovery in the pyramids, as they have all been opened either in the time of the Greeks or Romans, or by the Mahometans, and an unrifled tomb of this age is still a desideratum. Until such is hit upon we must remain in ignorance of the real mode of sepulture in those days, and of the purpose of many of the arrangements in these mysterious buildings.[1]

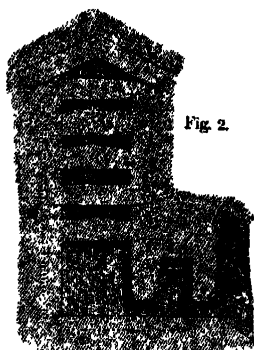


Fig. 2.



Fig. 1.

tion of King's Chamber and of Passage in Great Pyramid. Scale 50 ft. to 1 in.

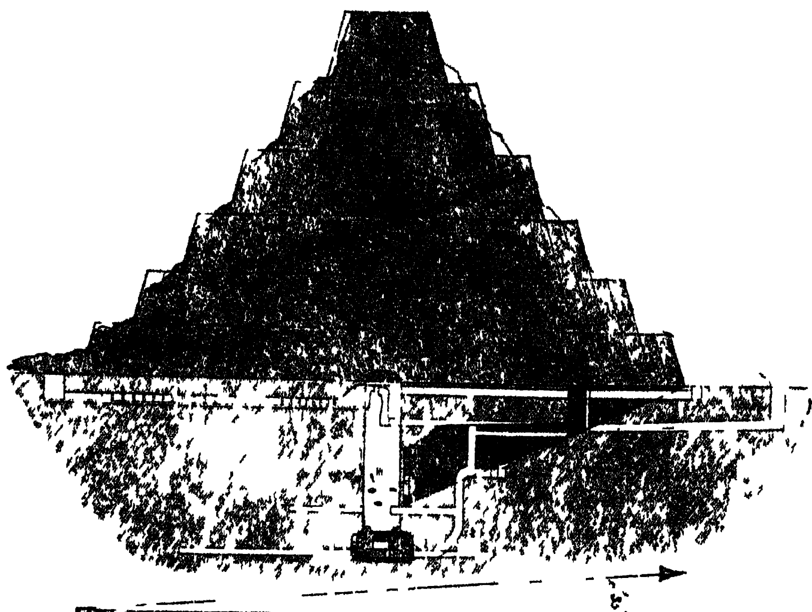
[1] It is understood that M. Mariette has discovered some chambers in tombs which throw great light on this subject. But nothing has yet been published.

The portcullises which invariably close the entrances of the sepulchral chamber in the pyramids are among the most curious and ingenious of the arrangements of these buildings. Generally they consist of great cubical masses of granite, measuring 8 or 10 ft. each way, and consequently weighing 50 or 60 tons, and even more. These were fitted into chambers prepared during the construction of the building, but raised into the upper parts, and, being lowered after the body was deposited, closed the entrance so effectually that in some instances it has been found necessary either to break them in pieces, or to cut a passage round them to gain admission to the chambers. They generally slide in grooves in the wall, to which they fit exactly, and altogether show a degree of ingenuity and forethought very remarkable, considering the early age at which they were executed.

In the second pyramid one chamber has been discovered, partly aboveground, partly cut in the rock. In the third the chambers are numerous, all excavated in the rock; and from the tunnels that have been driven by explorers through the superstructures of these two, it is very doubtful whether anything is to be found aboveground. It is observable that the measurements of the third pyramid are as nearly as possible the exact half of those of the second. This cannot have been unintentional.

The exceptional pyramid above alluded to is that of Saccara, shown in the annexed plan and section (woodcut No. 8), both to the scale of 100 ft. to 1 in. It is the only pyramid that does not face exactly north and south. It is nearly of the same general dimensions with the third pyramid, or that of Mycerinus; but its outline, the disposition of its chambers, and the hieroglyphics found in its interior, all would seem to point it out as an imitation of the old form of mausolea by some king of a far more modern date. Some, however, of the more recent authorities seem inclined to consider this pyramid as the oldest, instead of the most modern, and to ascribe it to Mnevis the 4th king of the 1st dynasty, assuming that the hieroglyphics, &c., were added afterwards. Further research will be required to settle this point. For the present it is sufficient to know that it lies outside the regular series of pyramids, and of a date either anterior or posterior to them; but most probably the latter.

All the old pyramids do not follow the simple outline of those of Gizeh. That at Dashoor, for instance, rises to half its height with a slope of 54° to the horizon, but is finished at the angle of 45°, giving it a very exceptional appearance; and that of Meydoon has more the appearance of a tower, its angle being 74° 10′. Two smaller towers rise from its summit, in the manner in which it is supposed Assyrian pyramids were usually constructed. It indeed seems not to have been unusual to build pyramids in storeys or stages, each less than the other; though it is possible that in this case it may have been only a temporary or preparatory stage, and that it was intended eventually



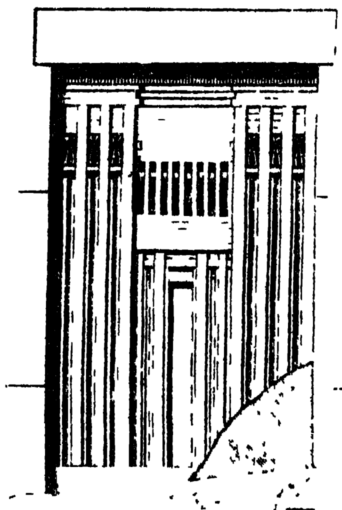
8. Pyramid of Saccara. From Colonel Vyse's work. Scale 100 ft. to 1 in.

to smooth the whole down to the more orthodox form of a straight-sided pyramid.

TOMBS.

Around the pyramids not only at Gizeh, but at Saccara, indeed, wherever they exist, numberless smaller sepulchres are found, which appear to have been appropriated to private individuals as the pyramids were—so far as we can ascertain—reserved for kings or at all events for persons of royal blood. These have as yet been only partially explored and still more imperfectly described. Their general form is that of a truncated pyramid, low, and looking externally like a house with sloping walls, with only one door leading to the interior, though they may contain several apartments, and no attempt is made to conceal the entrance. The body seems to have been preserved from profanation by being hid in a well of considerable depth, the opening into which was concealed in the thickness of the walls.

Unlike the pyramids, the walls are covered with the paintings above alluded to, and everything in this "eternal dwelling"[1] of the dead is made to resemble the abodes of the living, as was afterwards the case with the Etruscans. It is owing to this circumstance that we are able not only to realize so perfectly the civil life of the Egyptians at this period but to fix the dates of the whole series by identifying the names of the kings who built the pyramids with those on the walls of the tombs that surround them.[2]



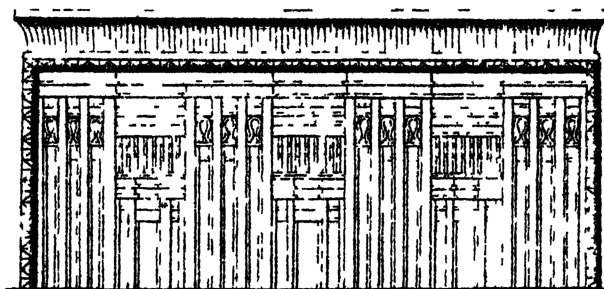
Doorway in Tomb at the Pyramids. From Lepsius.

Like all early architecture, that of these tombs shows evident symptoms of having been borrowed from a wooden original. The lintels of the doorways are rounded, and the walls mere square posts, grooved and jointed together, every part of it being as unlike a stone architecture as can possibly be conceived. Yet the pyramids themselves, and those tombs which are found outside them, are generally far removed

[1] Diodorus, i. 51.

[2] When M. Mariette's recent discoveries in these tombs shall have been given to the world in a tangible form, it will enable this chapter of the history of art to be written with a completeness and a reality, of which no one can well have a conception who has not seen the buildings themselves. At present no sufficient data exist to enable others to realize and verify the extraordinary revelation it presents to us. It is 2000 years older, and infinitely more varied and vivid than the Assyrian pictures which recently excited so much interest.

from the forms employed in timber structures; and it is only when we find the Egyptians indulging in decorative art that we trace this more primitive style. There are two doorways of this class in the British Museum, and many in that of Berlin. One engraved in Lepsius's work (woodcut No. 9) gives a fair idea of this style of decorative art, in the most elaborate form in which we now know it. It is possible that some of its forms may have been derived from brick architecture, but the lintel certainly was of wood, and so it may be suspected were the majority of its features. It certainly is a transitional form, and though we only find it in stone, none of its peculiarities were derived from lithic arts. Perhaps one of the best illustrations of the architectural forms of that day was the sarcophagus of Mycerinus, unfortunately lost on its way to England. It represented a palace, with all the peculiarities found on a larger scale in the buildings which surround the pyramid, and with that peculiar cornice and still more singular roll or ligature on the angles, most evidently a carpentry form, but which the style retained to its latest day.



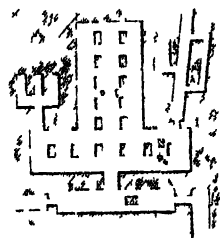
10 Sarcophagus of Mycerinus, found in Third Pyramid.

In many of these tombs square piers are found supporting the roof, sometimes, but rarely, with an abacus, and generally without any carved work, though it is more than probable they were originally painted with some device, upon which they depended for their ornament. In most instances they look more like fragments of a wall, of which the intervening spaces had been cut away, than pillars in the sense in which we usually understand the word; and in every case in the early ages they must be looked upon more as utilitarian expedients than as parts of an ornamental style of architecture.

TEMPLES.

Till very recently no temples had been discovered which could with certainty be ascribed to the age of the pyramid builders; one, however, was excavated a few years ago, from the sand close beside the great Sphinx in front of the second pyramid, and others it is said, have since been found, at Saccara and elsewhere, but no account of them has yet been published.

That at Gizeh is not remarkable for its dimensions, the extreme length being only about 100 feet, the extreme breadth the same.[1] The principal chamber in the form of a cross is supported by piers, simple prisms of Syenite granite, without base or capital, and supporting architraves as simple in outline as themselves. The roof of this chamber has entirely disappeared, but was no doubt originally of the same material. The walls are generally wainscoted with immense slabs of alabaster or of syenite beautifully polished, but with sloping joints and uneven beds—a form of masonry not uncommon in that age. No sculpture or inscription of any sort is found on the walls of this temple,[2] no ornament or symbol nor any image in the sanctuary. Statues and tablets of Cephrenes, the builder of the second pyramid, were however found in the well and in places clearly showing that it belonged to his time.



41. Sketch plan of Temple near the Sphinx. Scale 100 ft. to 1 in.

The exterior of this temple has not yet been freed from the sand in which it has so long lain buried, and there being no image and no inscription, it remains somewhat doubtful to whom or to what purpose it was dedicated. Its position, however, at a distance of 60 or 70 feet from the great Sphinx, and its being placed symmetrically alongside of it, renders it highly probable that it was dedicated to that great image.

A tablet is said to have been discovered,[3] in which Suphis, the builder of the Great Pyramid, records some repairs he had done to the Sphinx. If this is correctly read it proves its existence before the pyramids, and long before, if it required renovation at that time. As such it is not only the most colossal, but the oldest idol of the human race of which we have now any knowledge. It does not apparently represent a heavenly being, but seems intended to symbolize the strength of an animal added to the intellect of a man. A combination we afterwards find repeated in so many forms in Assyria, but hardly even there considered as a god.

Whether or not the temple and the Sphinx belong to one another, this at least seems certain, that they are the oldest examples of their respective classes which now exist, and consequently so deeply inte-

[1] These dimensions are taken from Professor Donaldson's plan, published in the Transactions of the Institute of British Architects, Feb. 1861. It, however, cannot be implicitly relied upon, not from any fault of the professor's, but because he was closely watched, and prevented as far as possible from taking measurements or notes. As it is the only thing published, it must suffice for the present.

[2] Lucian, De Syria Dea, ed. Reitz, tom. iii. p. 451, alludes to the fact of the old temples of the Egyptians having no images.

[3] 'Revue des Deux Mondes,' 1st April, 1865, p. 675 et seq. In this article M. Renan must be considered as the mouthpiece of M. Mariette. It is not a satisfactory form of publication, but it is all we yet have.

resting as to make us long for a more complete illustration of them than has yet been given to the world. The temple, which is being recovered from oblivion, is a new form, and when made known may lead to the most important rectification of our ideas on the subject.

In the present transitional state of our knowledge of the architectural art of the pyramid builders, it is difficult to form any distinct judgment as to its merits. The early Egyptians built neither for beauty nor for use, but for eternity, and to this last they sacrificed every other feeling. In itself nothing can be less artistic than a pyramid. A tower, either round or square, or of any other form, and of the same dimensions, would have been far more imposing and if of sufficient height—the mass being the same—might almost have attained sublimity; but a pyramid never looks so large as it is, and not till you almost touch it can you realize its vast dimensions. This is owing principally to all its parts sloping away from the eye instead of boldly challenging observation; but, on the other hand, no form is so stable, none so capable of resisting the injuries of time or force, and none, consequently, so well calculated to attain the object for which the pyramids were erected. As examples of technic art, they are unrivalled among the works of men, but they rank low if judged by the æsthetic rules of architectural art.

The same may be said of the tombs around them: they are low and solid but possess neither beauty of form nor any architectural feature worthy of attention or admiration, but they have lasted nearly uninjured from the remotest antiquity, and thus have attained the object their builders had principally in view in designing them.

Their temple architecture, on the other hand, may induce us to modify considerably these opinions. The one described above—which is the only one I personally have any knowledge of—is perhaps the simplest and least adorned temple in the world. All its parts are plain—straight and square, without a single moulding of any sort, but they are perfectly proportioned to the work they have to do. They are pleasingly and effectively arranged, and they have all that lithic grandeur which is inherent in large masses of precious materials.

Such a temple as that of the Sphinx cannot compete either in richness or magnificence with the great temples of Thebes, with their sculptured capitals and storied walls, but there is a beauty of repose and an elegance of simplicity about the older example which goes far to redeem its other deficiencies, and when we have more examples before us they may rise still higher in our estimation.

Whatever opinion we may ultimately form regarding the architecture, there can be little doubt as to the rank to be assigned to their painting and sculpture. In these two arts the Egyptians early attained a mastery which they never surpassed. Judged by the rules of classic or of modern art, it appears formal and conventional to such an extent as to

render it difficult for us now to appreciate its merits. But as a purely Phonetic form of art—as used merely to enunciate those ideas which we now so much more easily express by alphabetic writings, it is clear and precise beyond any picture writings the world has since seen. Judged by its own rules, it is marvellous to what perfection the Egyptians had attained at that early period, and if we look on their minor edifices as mere vehicles for the display of this pictorial expression, we must modify to some extent the judgment we would pass on them as mere objects of architectural art.

CHAPTER III.

FIRST THEBAN KINGDOM.

XIIth DYNASTY OF MANETHO.

Sesonchosis .	reigned 46 years	Lampares (Labyrinth)	reigned 8 years
Ammenemes .	,, 38 ,,	His successors .	,, 12 ,,
Sesostris (Osortasen)	,, 48 ,,		

The great culminating period of the old kingdom of Egypt is that belonging to the 4th and 5th dynasties. Nine-tenths of the monuments of the pyramid builders which have come down to our time belong to the five centuries during which these two dynasties ruled over Egypt (B.C. 3500–3000).

The 6th dynasty was of a southern and more purely African origin. On the tablets of Apap[1] (Apophis), its most famous monarch, we find the worship of Khem and other deities of the Theban period wholly unknown to the Pyramid kings. The next four dynasties are of fainéant kings, of whom we know little, not "Carent quia vate sacro," but because they were not builders, and their memory is lost. The 11th and 12th usher in a new state of affairs. The old Memphite pyramid building kingdom had passed with its peaceful contentment, and had given place to a warlike idolatrous race of Theban kings, far more purely African, the prototypes of the great monarchy of the 18th and 19th dynasties, and having no affinity with anything we know of as existing in Asia in those times.

Their empire lasted apparently for more than 300 years in Upper Egypt: but for the latter portion of that period they do not seem to have reigned over the whole country, having been superseded in Lower Egypt by the invasion of the hated Hyksos, or Shepherd kings, about the year 2300 B.C., and by whom they were finally totally overthrown.

When we turn from the contemplation of the Pyramids, and the monuments contemporary with them, to examine those of the 12th dynasty, we become at once aware of the change which has taken place. Instead of the Pyramids, all of which are situated on the western side of the Nile, we have obelisks, which, without a single exception, are found on its eastern side towards the rising sun, apparently in contradistinction to the valley of the dead, which was towards the side on which he set. The earliest and one of the finest of these obelisks is

[1] Lepsius, Denkmaler, Abt. ii. pls. 115, 116.

that still standing at Heliopolis, inscribed with the name of Osortasen, one of the first and greatest kings of this dynasty. It is 67 ft. 4 in. in height, without the pyramidion which crowns it, and is a splendid block of granite, weighing 217 tons. It must have required immense skill to quarry it, to transport it from Syene, and finally, after finishing it, to erect it where it now stands and has stood for 4500 years.

We find the sculptures of the same king at Wady Halfah, near the second cataract, in Nubia; and at Sarabout el Kadem in the Sinaitic Peninsula. He also commenced the great temple of Karnac at Thebes, which in the hands of his successors became the most splendid in Egypt, and perhaps it is not too much to say the greatest architectural monument in the whole world.

As might be expected from our knowledge of the fact that the Hyksos invasion took place so soon after his reign, none of his structural buildings now remain entire in which we might read the story of his conquests, and learn to which gods of the Pantheon he especially devoted himself. We must therefore fall back on Manetho for an account of his "conquering all Asia in the space of nine years, and Europe as far as Thrace,"[1] for though there is nothing to contradict this statement there is much that renders it extremely probable.

The Labyrinth.

It is to this dynasty also that we owe the erection of the Labyrinth, one of the most remarkable, as well as one of the most mysterious, monuments of Egypt. All Manetho tells us of this is, that Lampares, or Mœris 'built it as a sepulchre for himself,' and the information we derive from the Greeks on this subject is so contradictory and so full of the wonderful, that it is extremely difficult to make out either the plan or the purpose of the building. As long ago as 1843, the whole site was excavated and thoroughly explored by the officers of the Prussian expedition under Lepsius, but, like most of the information obtained by that ill-conditioned party, the results have not yet been given to the world, except in the most unsatisfactory and fragmentary form.

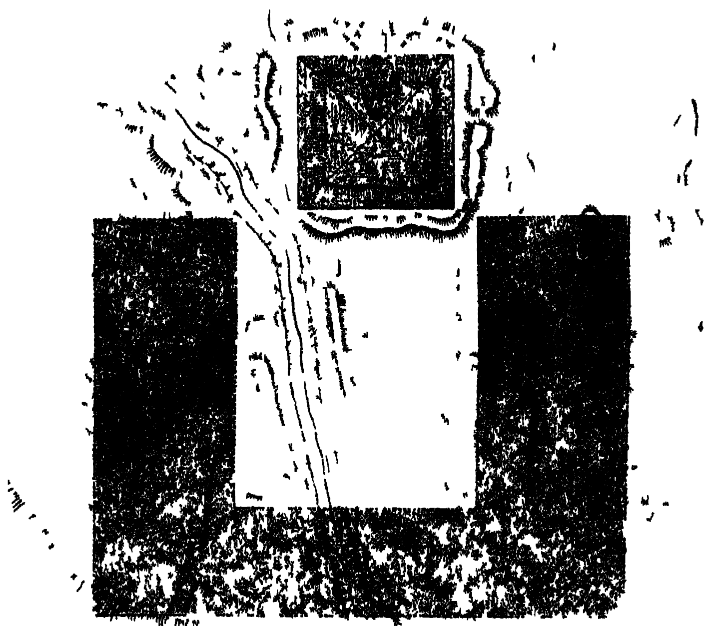
From such data as have been given to the public we learn that the Labyrinth was a building measuring about 1150 feet east and west by 850 feet north and south, surrounding three sides of a courtyard, about 500 feet in one direction by 600 in the other (woodcut No. 12). The fourth side was occupied — unsymmetrically however — by a pyramid measuring about 200 feet square, or somewhat less than the dimensions ascribed to it by the Greeks.[2]

This pyramid was no doubt the tomb of the founder, and the name of Amenemhe, one of the kings of this dynasty, has been found on its walls, showing that the fashion of erecting sepulchral pyramids had

[1] Syncellus, p. 60; Euseb. Chron. p. 98.

[2] Herod. ii. 148.

not then quite gone out though its accompaniments were of a nature previously unknown



12 Block Plan of the Labyrinth From Lepsius' Denkmäler

In the Labyrinth itself a number of small chambers were found two storeys in height, as the account of Herodotus lead us to expect, but so small, being only four feet in width at most, that we cannot understand the admiration they excited in his mind. As there are no hieroglyphics upon them, it is difficult to determine whether they belong to the old Labyrinth, or to that which Herodotus writes of as erected by Psammeticus and the kings of his day. As, however, the materials for acquiring a far more perfect knowledge of this building exist at Berlin, it is needless speculating on such imperfect data as we now possess, and must therefore hope that more liberal counsels may soon prevail, and that the mystery that still shrouds this singular monument may before long be removed



13 Chambers in Labyrinth From Lepsius

Tombs.

The most interesting series of monuments of this dynasty which have come down to our time are the tombs of Beni Hassan in Middle Egypt. Strange to say, they are situated on the eastern side of the Nile, and are almost the only hypogea that are so placed in Egypt.[1] The character of the sculptures which adorn their walls approaches that found in the tombs surrounding the pyramids, but the architecture differs widely. They are all cheerful-looking halls open to the light of day, many of them with pillared porches, and all possessing pretensions to architectural ornament either internal or external.



Tomb at Beni Hassan.

One of the most interesting of these possesses a portico of two pillars, in architecture so like the order afterwards employed by the Greeks as to be named with propriety the proto-Doric order. The same class of pillar is used internally, supporting a plain architrave, from which spring two curvilinear roofs, which we can hardly help supposing were so formed in imitation of an arch. All the features of this order indeed seem to be borrowed from brick architecture; the pillar is just what we should expect in one built up of small materials. The abacus is the tile or wooden capping which is indispensable in that case to distribute the superincumbent weight over the whole substance of the pier; and if bricks were so employed, nothing is more probable than that the arch should also have been introduced. The form of the cornice also indicates a far more ephemeral and lighter style of architecture than could have been derived from stone buildings.

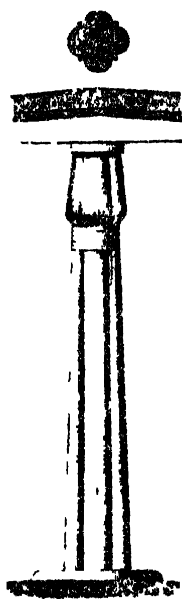


15. Pillar at Beni Hassan.

There is another form of pillar used at Beni Hassan at that early age which is still further removed from stone than even the proto-Doric. It imitates a bundle

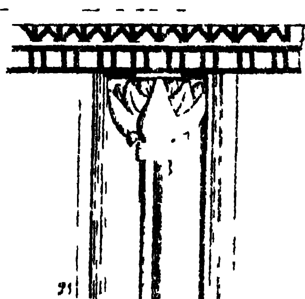
[1] Were they originally tombs? Were they not, when first excavated, intended as dwelling-places for the living, to be afterwards appropriated as sepulchres for the dead? That such should be the case may appear strange to death-fearing races like those that now inhabit Europe; but among the Moguls of India the fashion always was for a king to build his own sepulchre, and use it as a pleasure palace during his life. It was only after his death that it became the tomb and monument of its founder.

of four reeds or lotus-stalks bound together near the top and bulging above the ligature so as to form a capital. Such a pier must evidently have been originally employed in wooden architecture only, and the roof which it supports is in this instance of light wooden construction having the slight slope requisite in the dry climate of Egypt. In after ages this form of pillar became a great favourite with the Egyptian architects, and was employed in all their great monuments, but with a far more substantial lithic form than we find here, and in conjunction with the hollow or, as we should call it, Corinthian-formed capital, of which no example is found earlier than the 18th dynasty.



16 Pillar from Beni Hassan.

Where the square pier, so characteristic of the pyramid-building age, is used at Beni Hassan it is adorned on its face with a lotus-flower and stems (woodcut, No. 17), so as to assimilate it with the more advanced free standing pillars of the same order, and is interesting as showing how the suggestion arose. It is by no means improbable that at an earlier epoch the square prisms of the pyramid age were so adorned in painting. In the new kingdom of the 12th dynasty they were probably first so treated in relief. This done, the suggestion was obvious, where wood could be used, to cut away the masses, leaving only the stems. This again came to be reproduced in stone, which after a while lost all trace of its wooden original.



17 Lotus Pier, Beni Hassan. From Lepsius.

These are meagre records, it must be confessed, of so great a kingdom, but when we come to consider the remoteness of the period, and that the dynasty was overthrown by the Shepherds whose rule was of considerable duration, it is perhaps in vain to expect that much can remain to be disinterred which would enable us to realise more fully the architectural art of this age.

SHEPHERDS.

Till very recently our knowledge of the Shepherd kings was almost entirely derived from what was said of them by Manetho, in the extracts

from his writings so fortunately preserved by Josephus, in his answer to Apion. Recent explorations have however raised a hope that even their monuments may be so far recovered as to enable us to realise to some extent at least who they were and what their aspirations.

Manetho tells us they came from the East, but fearing the then rising power of the Assyrians they fortified Avaris as a bulwark against them, and used it during their sojourn in Egypt to keep up their communications with their original seat. Recent explorations have enabled M. Mariette to identify San, Zoan, or Tanis, a well-known site on the Bubastite branch of the Nile, with this Avaris. And already he has disinterred a sphinx and two seated statues which certainly belong to the reign of the Shepherd king Apophis.[1]

The character of these differs widely from anything hitherto found in Egypt. They present a physiognomy strongly marked with an Asiatic type—an arched nose, rude bushy hair, and great muscular development; altogether something wholly different from everything else found in Egypt either before or afterwards.

This is not much, but it is an earnest that more remains to be discovered, and adds another to the proofs that are daily accumulating, how implicitly Manetho may be relied upon when we only read him correctly, and how satisfactory it is to find that every discovery that is made confirms the conclusions we had hesitatingly been adopting.

It appears from such fragmentary evidence as has hitherto been gleaned from the monuments, that the Shepherds' invasion was neither sudden nor at once completely successful, if indeed it ever was so, for it is certain that Theban and Xoite dynasties coexisted with the Shepherds during the whole period of their stay, either from policy, like the protected princes under our sway in India or because their conquest was not so complete as to enable them to suppress the national dynasties altogether.

Like the Tartars in China they seem to have governed the country by the original inhabitants and for their own purposes; tolerating their religion and institutions, but ruling by the superior energy of their race the peace-loving semi-Semitic inhabitants of the Delta, till they were in their turn overthrown and expelled by the more warlike African races of the southern division of the Egyptian valley.

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1 'Revue Archæologique,' vol. iii., 1861, p. 97, and v., 1862, p. 297.

CHAPTER IV.

PHARAONIC KINGDOM.

PRINCIPAL KINGS OF THE GREAT THEBAN PERIOD.

XVIIITH DYNASTY.		1824 Orus	reigned 36 years.
Amenophis I.	reigned 25 years	Rhamses I	,, 12 ,,
Thothmosis I	,, 13 ,,	Manephtha I	,, 32 ,,
Amenophis II	,, 20 ,,	Rhamses II	,, 68 ,,
Amensé (Queen)	,, 21 ,,	Manephtha II	,, 5 ,,
Thothmosis II.	,, 12 ,,	XIXTH DYNASTY.	
Thothmosis III	,, 26 ,,	Sethos Rhamses	,, 55 ,,
Thothmosis VI	,, 10 ,,	Rhamsesides	,, 66 ,,
Amenophis III	,, 21 ,,	Amenophis	,, 20 ,,
Interregnum of Sun-worshipping Kings		Exode	

THE five centuries[1] which elapsed between the expulsion of the Shepherds and Exode of the Jews, comprise the culminating period of the greatness and greatest artistic development of the Egyptians. It is practically within this period that all the great buildings of the "Hundred pyloned city of Thebes" were erected. Memphis was adorned within its limits with buildings as magnificent as those of the southern capital, though subsequently less fortunate in escaping the hand of the spoiler, and in every city of the Delta wherever an obelisk or sculptured stone is found, there we find almost invariably the name of one of the kings of the 18th or 19th dynasties. In Arabia, too, and above the Cataracts to the far-off Meroe, everywhere their works and names are found. At Arban,[2] on the Khabour, we find the name of the third Thothmes; and there seems little doubt but that the Naharaina or Mesopotamia was one of the provinces conquered by them, and that all Western Asia was more or less subject to their sway.

Whoever the conquering Thebans may have been, their buildings are sufficient to prove, as above mentioned, that they belonged to a race differing in many essential respects from that of the Memphite kingdom they had superseded.

The pyramid had disappeared as a form of royal sepulchre, to be replaced by a long gloomy corridor cut in the rock; its walls covered with wild and fetish pictures of death and judgment: a sort of magic hall crowded with mysterious symbols—the most monstrous and complicated that any system of human superstition has yet invented.

[1] 518 years. Josephus contra Apion. [2] Layard, 'Nineveh and Babylon,' 281.

Instead of the precise orientation and careful masonry of the old kingdom, the buildings of the new race are placed anywhere, facing in any direction, and generally affected with a symmetriphobia that it is difficult to understand. The pylons are seldom in the axis of the temples; the courts seldom square; the angles frequently not right angles, and one court succeeding another without the least reference to symmetry.

The masonry, too, is frequently of the rudest and clumsiest sort, and would long ago have perished but for its massiveness, and there is in all their works an appearance of haste and want of care that sometimes goes far to mar the value of their grandest conceptions.

In their manners, too, there seems an almost equal degree of discrepancy. War was the occupation of the kings, and foreign conquest seems to have been the passion of the people. The pylons and the walls of the temples are covered with battle-scenes, or with the enumeration of the conquests made, or the tribute brought by the subjected races. While not engaged in this, the monarch's time seems to have been devoted to practising the rites of the most complicated and least rational form of idolatry that has yet been known to exist among any body of men in the slightest degree civilized.

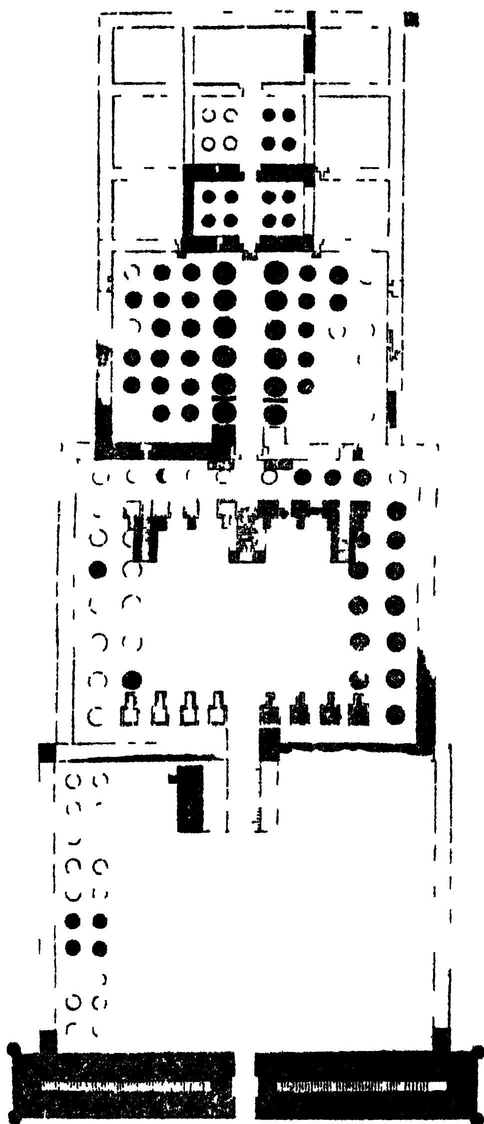
If the monuments of Memphis had come down to our times as perfect as those of Thebes, some of these differences might be found less striking. On the other hand, others might be still more apparent; but judging from such data as we possess—and they are tolerably extensive and complete—we are justified in assuming a most marked distinction; and it is indispensably necessary to bear it in mind in attempting to understand the architecture of the valley of the Nile, and equally important in any attempt to trace the affinities of the Egyptian with any other races of mankind. So far as we can now see, it may be possible to trace some affinities with the pyramid builders in Assyria or in Western Asia; but if any can be dimly predicated of the southern Egyptian race, it is in India and the further east; and the line of communication was not the Isthmus of Suez, but the Straits of Babelmandeb or the Indian Ocean.

THEBES.

Although, as already mentioned, numerous buildings of the great Pharaonic dynasties are to be found scattered all along the banks of the Nile, it is at Thebes only that the temples are so complete as to enable us to study them with advantage, or to arrive at a just appreciation of their greatness. That city was practically the capital of Egypt during the whole of the 18th and 19th dynasties, and has been fortunate in having had no great city built near it since it fell into decay; unlike Memphis in this respect, which has been used as a quarry during the last 14 or 15 centuries. It has also had the advantage of a

barrier of rocky hills on its western limits, which has prevented the sand of the desert from burying its remains, as has been the case at Abydos and elsewhere.

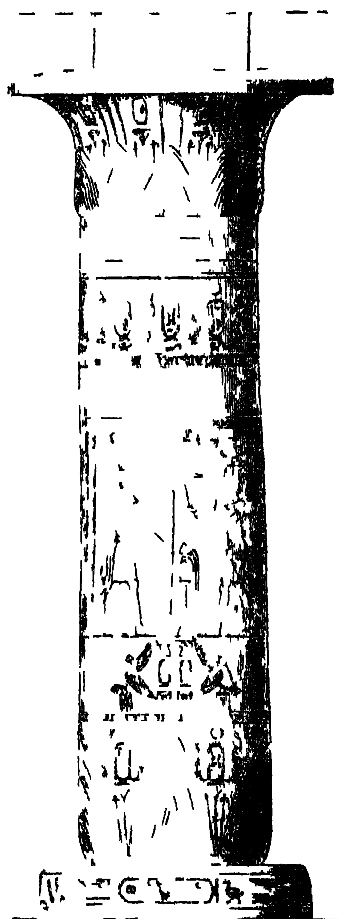
The ruins that still remain are found scattered over an area extending about 2¼ miles north and south, and 3½ miles east and west. The principal group is at Karnac on the eastern bank of the Nile, consisting of one great temple 1200 feet long, and five or six smaller temples grouped unsymmetrically around it. About two miles further south is the temple at Luxor 820 feet long, and without any dependents.



18. [illegible] Scale 100 ft. to 1 in.

On the other side of the river is the great temple of Medinet-Habou, built by the first king of the 19th dynasty 520 feet in length the Rhamession, 570 feet long; and the temple at Gournou, of which only the sanctuary and the foundations of the Propyla now exist. Of the great temple of Thothmes and Amenophis very little remains above ground — it having been situated within the limits of the inundation— except the two celebrated Colossi, one of which was known to the Greeks as the vocal Memnon. When complete it probably was, next after Karnac, the most extensive of Theban temples. There are several others, situated at the foot of the Libyan hills, which would be considered as magnificent elsewhere, but sink into insignificance when compared with those just enumerated.

Most of these, like our mediæval cathedrals, are the work of successive kings, who added to the works of their ancestors without much reference to congruity of plan; but one, the Rhamession, was built wholly by the great Rhamses in the 14th century B.C., and though the inner sanctuary is so ruined that it can hardly be restored, still the general arrangement, as shown in the annexed woodcut, is so easily made out that it may be considered as the typical example of what an Egyptian temple of this age was intended to have been. Its façade is formed by two great pylons or pyramidal masses of masonry, which, like the two western towers of a Gothic cathedral, are the appropriate and most imposing part of the structure externally. Between these is the entrance doorway, leading, as is almost invariably the case, into a great square courtyard, with porticoes always on two and sometimes on three sides. This leads to an inner court, smaller but far more splendid than the first. On the two sides of this court through which the central passage leads, are square piers with colossi in front, and on the right and left are double ranges of circular columns, which are continued also behind the square piers fronting the entrance. Passing through this we come to a hypostyle hall of great beauty, formed by two ranges of larger columns in the centre and three rows of smaller ones on each side. These hypostyle halls almost always accompany the larger Egyptian temples of the great age. They derive their name from having, over the lateral columns, what in Gothic architecture would be called a *clerestory*, through which the light is admitted to the central portion of the hall. Although some are more extensive than this, the arrangement of all is nearly similar. They all possess two ranges of columns in the centre, so tall as to equal the height of the side columns together with that of the attic which is placed on them. They are generally of different orders, the central pillars having a bell-shaped capital, the under side of which



Central pillar from Rhamession, Thebes.

was perfectly illuminated from the mode in which the light was introduced; while in the side pillars the capital was narrower at the top than at the bottom, apparently for the sake of allowing its ornaments to be seen.

Beyond this are always several smaller apartments, in this instance supposed to be nine in number, but they are so ruined that it is difficult to be quite certain what their arrangement was. These seem to have been rather suited to the residences of the king or priests than to the purposes of a temple, as we understand the word. Indeed, palace-temple, or temple palace, would be a more appropriate term for these buildings than to call them simply temples. They do not seem to have been appropriated to the worship of any particular god, but rather for the great ceremonials of royalty—of kingly sacrifice to the gods for the people, and of worship of the king himself by the people, who seems to have been regarded, if not as a god, at least as the representative of the gods on earth.

Though the Rhamession is so grand from its dimensions, and so beautiful from its design, it is far surpassed in every respect by the palace-temple at Karnac, which is perhaps the noblest effort of architectural magnificence ever produced by the hand of man.

Its principal dimensions are 1200 ft. in length, by about 360 in width, and it covers therefore about 430,000 square ft., or nearly twice the area of St. Peter's at Rome, and more than four times that of any mediæval cathedral existing. This, however, is not a fair way of estimating its dimensions, for our churches are buildings entirely under one roof; but at Karnac a considerable portion of the area was uncovered by any buildings, so that no such comparison is just. The great hypostyle hall, however, is internally 340 ft. by 170, and, with its two pylons, it covers more than 88,000 square ft., a greater area than the cathedral of Cologne, the largest of all our northern cathedrals; and when we consider that this is only a part of a great whole, we may fairly assert that the entire structure is among the largest, as it undoubtedly is one of the most beautiful buildings in the world.

The original part of this great group was, as before mentioned, the sanctuary or temple built by Osortasen, the great monarch of the 12th dynasty before the Shepherd invasion. It is the only thing that seems to have been allowed to stand during the five centuries of Shepherd domination, though it is by no means clear that it had not been pulled down by the Shepherds, and reinstated by the first kings of the 18th dynasty, an operation easily performed with the beautiful polished granite masonry of the sanctuary. Be this as it may, Amenophis, the first king of the restored race, enclosed this in a temple about 120 ft. square. Thothmes I. built in front of it a splendid hall, surrounded by colossi, backed by piers; and Thothmes III. erected behind it a palace or temple, which is one of the most singular buildings in Egypt.

The hall is 140 ft. long by 55 in width internally, the roof is supported by two rows of massive square columns, and two of circular pillars of most exceptional form, the capitals of which are reversed, and somewhat resembling the form usually found in Assyria, but nowhere else in Egypt. Like almost all Egyptian halls, it was lighted from the roof in the manner shown in the section. With all these additions, the temple was a complete whole, 540 ft. in length by 280 in width, at the time when the sun worshippers broke in upon the regular succession of the great 18th dynasty.

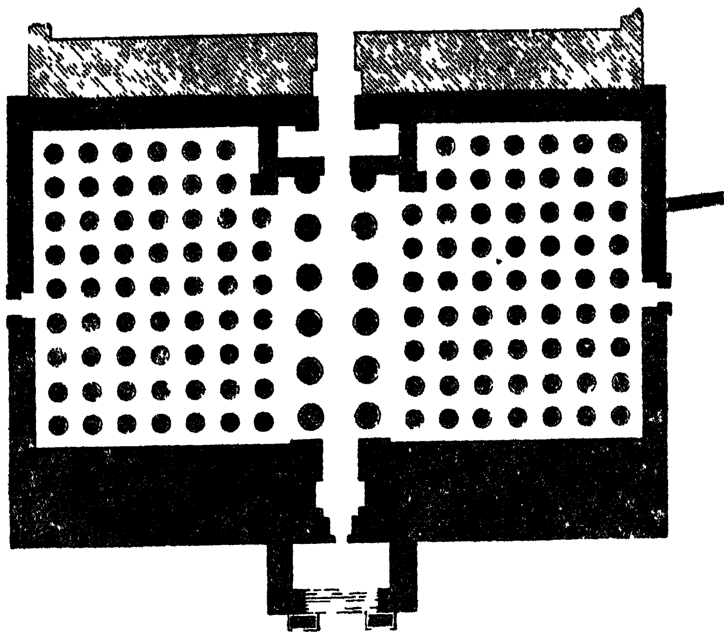


Section of Palace of Thothmes III., Thebes.

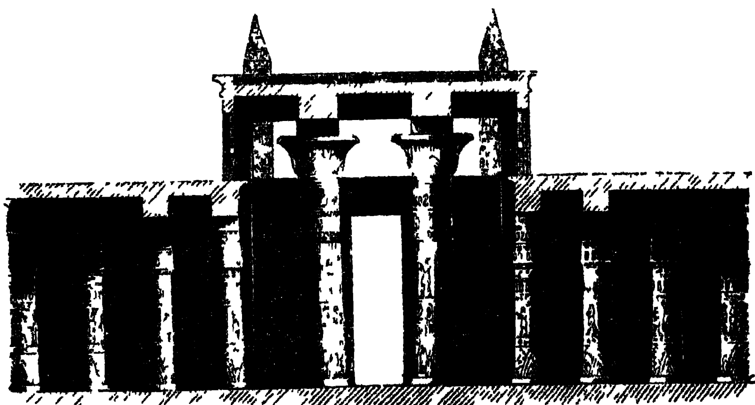
When the original line was resumed, Manepthah commenced the building of the great hall, which he nearly completed. Rhamses, the first king of the 19th dynasty built the small temple in front; and the so-called Bubastite kings of the 22nd dynasty added the great court in front, completing the building to the extent we now find it. We have thus, as in some of our mediæval cathedrals, in this one temple, a complete history of the style during the whole of its most flourishing period; and, either for interest or for beauty, it forms such a series as no other country, and no other age, can produce. Besides those buildings mentioned above, there are other temples to the north, to the east, and more especially to the south, and pylons connecting these, and avenues of sphinxes extending for miles, and enclosing-walls, and tanks, and embankments, making up such a group as no city ever possessed before or since. St Peter's with its colonnades, and the Vatican, make up an immense mass, but as insignificant in extent as in style when compared with this glory of ancient Thebes and its surrounding temples.

The culminating point and climax of all this group of building is the hypostyle hall of Manepthah. The accompanying plan, and section of its central portion, both to the usual scale, will explain its general arrangement; but no language can convey an idea of its beauty, and no artist has yet been able to reproduce its form so as to convey to those who have not seen it an idea of its grandeur. The mass of its central piers, illumined by a flood of light from the clerestory, and the

smaller pillars of the wings gradually fading into obscurity, are so arranged and lighted as to convey an idea of infinite space; at the same time, the beauty and massiveness of the forms, and the brilliancy of their coloured decorations, all combine to stamp this as the greatest



21 Plan of Hypostyle Hall at Karnac. Scale 100 ft. to 1 in.

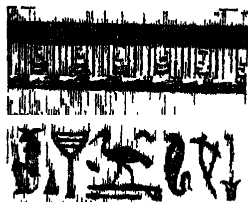


22 Section of central portion of Hypostyle Hall at Karnac. Scale 50 ft. to 1 in.

of man's architectural works; but such a one as it would be impossible to reproduce, except in such a climate and in that individual style in which, and for which, it was created.

On the same side of the Nile, and probably at one time connected

with it by an avenue of sphinxes, stands the temple of Luxor, hardly inferior in some respects to its great rival at Karnac but either it was never finished or, owing to its proximity to the Nile, it has been ruined and the materials carried away The length is about 830 ft, its breadth ranging from 100 to 200 ft Its general arrangement comprised, first a great court at a different angle from the rest, being turned so as to face Karnac In front of this stand two colossi of Rhamses the Great its founder and two obelisks were once also there one of which is now in Paris Behind this was once a great hypostyle hall but only the two central ranges of columns are now standing Still further back were smaller halls and numerous apartments evidently meant for the king's residence rather than for a temple or a place exclusively devoted to worship





3 Caryatid Pillar from the Great Court at Medinet Habu

The palace at Luxor is further remarkable as a striking instance of how regardless the Egyptians were of regularity and symmetry in their plans Not only is there a considerable angle in the direction of the axis of the building but the angles of the courts are in scarcely any instance right angles the pillars are variously spaced and pains seem to have been gratuitously taken to make it as irregular as possible in nearly every respect All the portion at the southern end was erected by Amenophis III the northern part completed by Rhamses the Great the same who built the Rhamesseion already described as situated on the other bank of the Nile

Besides these there stood on the western side of the Nile the Memnonium or great temple of Amenophis III now almost entirely ruined It was placed on the alluvial plain, within the limits of the inundation, which has tended on the one hand to bury it and on the other to facilitate the removal of its materials Nearly the only remains of it now apparent are the two great seated colossi of its founder, one of

to be quite made out; but they have a special interest to the Egyptologer, as it was on the walls of one of these that the so-called tablet of Abydos was discovered—now in the British Museum—which first gave a connected list of kings, the predecessors of Rhamses, and sufficiently extensive to confirm the lists of Manetho in a manner satisfactory to the ordinary enquirer. A second list, far more complete, has recently been brought to light in the same locality, and contains the names of 76 kings, ancestors of Maneptkah, the father of Rhamses. It begins, as all lists do, with Menes; but even this list is only a selection, omitting many names found in Manetho, but inserting others which are not in his lists. Before the discovery of this perfect list, the longest known were that of the chamber of the ancestors of Thothmes III., at Karnac, containing when perfect 61 names of which however nearly one-third are obliterated, and that recently found at Saccara containing 58 names originally, but of which several are now illegible.

It is the existence of these lists which gives such interest and such reality to the study of Architecture in Egypt. Fortunately there is hardly a building in that country which is not adorned with the name of the king in whose reign it was erected. In royal buildings they are found on every wall and every pillar. The older cartouches are simple and easily remembered, and when we find the buildings thus dated by the builders themselves, and their succession recorded by subsequent kings on the walls of their temples, we feel perfectly certain of our sequence, and nearly so of the actual dates of the buildings; they are moreover such a series as no other country in the world can match either for historic interest or Architectural magnificence.

ROCK-CUT TOMBS AND TEMPLES.

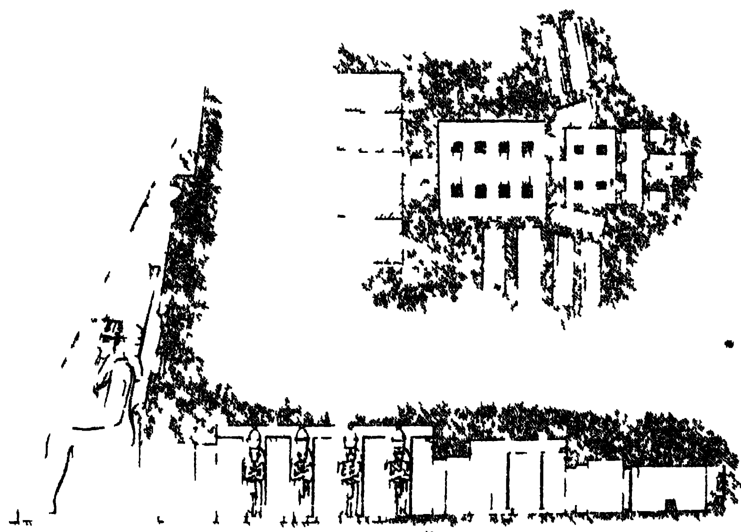
Both in Egypt Proper and in Nubia the Egyptians were in the habit of excavating monuments from the living rock, but with this curious distinction, that, with scarcely an exception all the excavations in Egypt Proper are tombs, and no important example of a rock-cut temple has yet been discovered. In Nubia, on the other hand, all the excavations are temples, and no tombs of importance are to be found anywhere. This distinction may hereafter lead to important historical deductions, inasmuch as on the western side of India there are an infinite number of rock cut temples, but no tombs of any sort. Every circumstance seems to point to the fact that, if there was any connection between Africa and India, it was with the provinces in the upper part of the Valley of the Nile, and not with Egypt Proper. This, however, is a subject that can hardly be entered on here, though it may be useful to bear in mind the analogy alluded to.

Like all rock cut examples all over the world, these Nubian temples are copies of structural buildings, only more or less modified to suit the exigencies of their situation, which did not admit of any very great

development inside, as light and air could only be introduced from the one opening of the doorway.

The two principal examples of this class of monument are the two at Ipsamboul, the largest of which is the finest of its class known to exist anywhere. Its total depth from the face of the rock is 150 ft., divided into 2 large halls and 3 cells, with passages connecting them.

Externally the façade is about 100 ft. in height, and adorned by 4 of the most magnificent colossi in Egypt, each 70 ft. in height, and representing the King, Rhamses II., who caused the excavation to be made. It may be because they are more perfect than any others now found in that country, but certainly nothing can exceed their calm majesty and beauty, or be more entirely free from the vulgarity and exaggeration which is generally a characteristic of colossal works of this sort.



[illegible]

The smaller temple at the same place has six standing figures of deities countersunk in the rock, and is carved with exceeding richness. It is of the same age with the large temple, but will not admit of comparison with it, owing to the inferiority of the design.

Besides these, there is a very beautiful though small example at Kalabsche, likewise belonging to the age of Rhamses II., and remarkable for the beauty of its sculptured bas-reliefs, as well as for the bold proto-Doric columns which adorn its vestibule. There are also smaller ones at Derr and Balagne at the upper end of the valley. At Essabua, Girsheh, and Dandour, the cells of the temple have been excavated from the rock, but their courts and propylons are structural buildings added in front—a combination never found in Egypt, and very rare anywhere

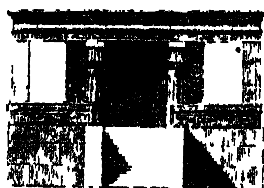
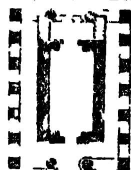
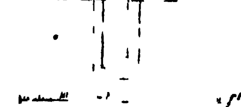
else, although meeting the difficulties of the case better than any other arrangement, inasmuch as the sanctuary has thus all the imperishability and mystery of a cave, and the temple at the same time has the space and external appearance of a building standing in the open air.

This last arrangement is found also as a characteristic of the temples of Gebel Barkal, in the kingdom of Meroe, showing how far the rock-cutting practice prevailed in the upper Valley of the Nile.

As all these temples are contemporary with the great structures in Egypt, it seems strange that the eternity of a rock-cut example did not recommend this form of temple to the attention of the Egyptians themselves. But with the exception of a small grotto, called the Speos Artemidos, near Beni Hassan, and two small caves at Silsilis, near the cataract, the Egyptians seem never to have attempted it, trusting apparently to the solidity of their masonic structures for that eternity of duration they aspired to.

MAMMEISI

In addition to the temples above described, which are all more or less complex in plan, and all made up of various independent parts, there exists in Egypt a class of temples called *mammeisi*, dedicated to the mysterious accouchement of the mother of the gods. Small temples of this form are common to all ages, and belong as well to the 18th dynasty as to the time of the Ptolemies. One of them built by Amenophis III at Elephantine, is represented in plan and elevation in the annexed cut. It is of a simple peristylar form, with columns in front and rear, resembling that shown in woodcut No. 7, and seven square piers on each flank. These temples are all small, and, like the Typhonia, which somewhat resemble them, were used as detached chapels or cells, dependent on the larger temples. What renders them more than usually interesting to us is the fact that they were undoubtedly the originals of the Greek peristylar forms, that people having borrowed nearly every peculiarity of their arts from the banks of the Nile. We possess tangible evidence of peristylar temples and proto-Doric pillars, erected in Egypt centuries before the oldest known specimen in Greece. We need therefore hardly hesitate to award the palm of invention of these things to the Egyptians, as we should probably be forced to do of most of the arts and sciences of the Greeks if we had only knowledge sufficient to connect them.

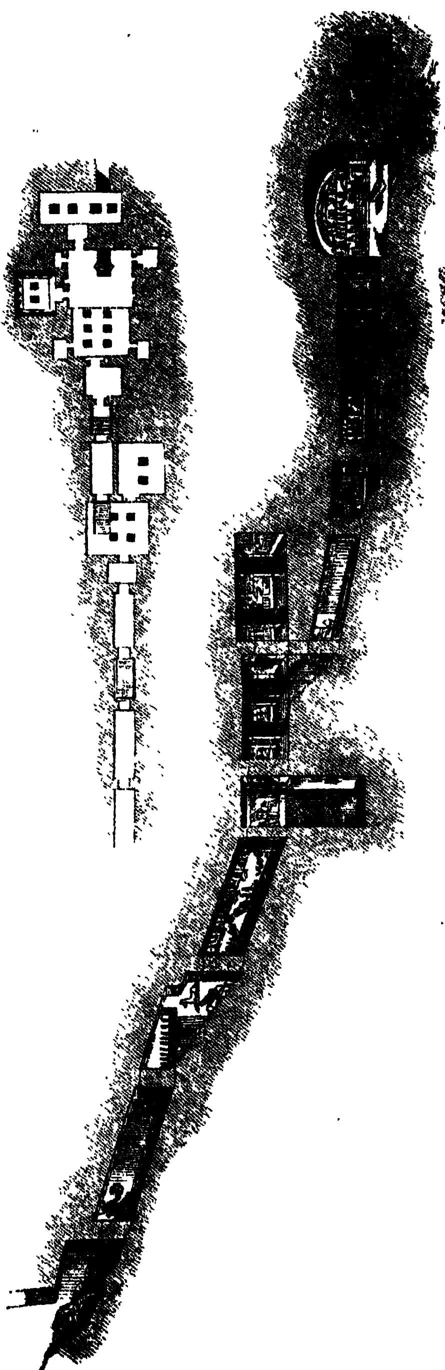




58. Mammeisi at Elephantine.

Tombs.

Of the first 10 dynasties of Egyptian kings little now remains but their tombs—the everlasting pyramids—and of the people they governed only the structures and rock-cut excavations which they prepared for their final resting-places.

The Theban kings and their subjects erected no pyramids, and none of their tombs are structural—all are excavated from the living rock; and from Beni Hassan to the cataract, the plain of the Nile is everywhere fringed with these singular monuments, which, if taken in the aggregate, perhaps required a greater amount of labour to excavate and to adorn than did even all the edifices of the plain. Certain it is that there is far more to be learnt of the arts, of the habits, and of the history of Egypt from these tombs than from all the other monuments. No tomb of any Theban king has yet been discovered anterior to the 18th dynasty; but all the tombs of that and of the subsequent dynasty have been found, or are known to exist, in the Valley of Biban-el-Melouk, on the western side of the plain of Thebes.



Plan and Section of Tomb of Menepthah at Thebes. Scale for plan 100 ft. to 1 in.; section 50 ft. to 1 in.

It appears to have been the custom with these kings, so soon as they ascended the throne, to begin preparing their final resting place. The excavation seems to have gone on uninterruptedly year by year, the painting and adornment being finished as it progressed, till the hand of death ended the king's reign, and simultaneously the works of his tomb. All was then left unfinished; the cartoon of the painter and the rough work of the mason and plasterer were suddenly broken off, as if the hour of the king's demise called them too, irrevocably from their labours.

The tomb thus became an index of the length of a king's reign as well as of his magnificence. Of those in the Valley of the Kings, the most splendid is that opened by Belzoni, and now known as that of Manephthah, the builder of the Hypostyle hall at Karnac. It descends, in a sloping direction, for about 350 ft. into the mountain, the upper half of it being tolerably regular in plan and direction; but after progressing as far as the unfinished hall with two pillars, the direction changes, and the works begin again on a lower level, probably because they came in contact with some other tomb, or in consequence of meeting some flaw in the rock. It now terminates in a large and splendid chamber with a coved roof in which stood, when opened by Belzoni, the rifled sarcophagus,[1] but a drift-way has been excavated beyond this, as if it had been intended to carry the tomb still further had the king continued to reign.

The tomb of Rhamses Maiamoun, the first king of the 19th dynasty, is more regular, and in some respects as magnificent as this, and that of Amenophis III is also an excavation of great beauty, and is adorned with paintings of the very best age. Like all the tombs, however, they depend for their magnificence more on the paintings that cover the walls than on anything which can strictly be called architecture, so that they hardly come properly within the scope of the present work; the same may be said of private tombs. Except those of Beni Hassan, already illustrated by woodcuts Nos. 14 to 17, they are all either mere chambers or corridors, without architectural ornament, but with their walls are covered with paintings and hieroglyphics of singular interest and beauty. Generally speaking, it is assumed that the entrances of these tombs were meant to be concealed and hidden from the knowledge of the people after the king's death. It is hardly conceivable, however, that so much pains should have been taken, and so much money lavished, on what was designed never again to testify to the magnificence of its founder. It is also very unlike the sagacity of the Egyptians to attempt what was so nearly impossible; for though the entrance of a pyramid might be so built up as to be unrecognisable, a cutting in the rock can never be repaired or disguised, and can only be temporarily concealed by heaping rubbish over it. Supposing it to

[1] Now in Sir John Soane's Museum, in Lincoln's-Inn-Fields.

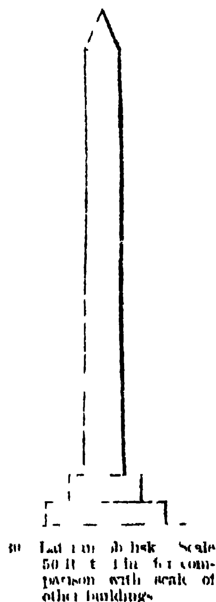
have been intended to conceal the entrances, such an expedient was as clumsy and unlikely to have been resorted to by so ingenious a people as it has proved futile, for all the royal tombs in the Valley of Biban-el-Melouk have been opened and rifled in a past age, and their sites and numbers were matters of public notoriety in the times of the Greeks and Romans. Many of the private tombs have architectural façades, and certainly never were meant to be concealed, so that it is not fair to assume that hiding their tombs' entrances was ever a peculiarity of the Thebans, though it certainly was of the earlier Memphite kings.

Obelisks.

Another class of monuments, almost exclusively Egyptian, are the obelisks, which form such striking objects in front of almost all the old temples of the country.

Small models of obelisks are found in the tombs of the age of the pyramid-builders, and represented in their hieroglyphics, but the oldest public monument of the class known to exist is that at Heliopolis, erected by Osortasen, the great king of the 12th dynasty. It is, like all the others, a single block of beautiful red granite of Syene, cut with all the precision of the age, tapering slightly towards the summit, and of about the average proportion, being about 10 diameters in height; exclusive of the top it is 67 ft. 4 in.

The two finest known to exist are, that now in the piazza of the Lateran, originally set up by Thothmes III., 105 ft. in height, and that still existing at Karnac, erected by Thothmes I., 93 ft. 6 in. in height. Those of Luxor, erected by Rhamses the Great, one of which is now in Paris, are above 77 ft. in height; and there are two others in Rome each above 80 ft.



50. Lateran Obelisk. Scale 50 ft. to 1 in. for comparison with scale of other buildings.

Rome, indeed, has 12 of these monuments within her walls—a greater number than exist, erect at least, in the country whence they came, though, judging from the number that are found adorning single temples, it is difficult to calculate how many must once have existed in Egypt. Their use seems to have been wholly that of monumental pillars, recording the style and title of the king who erected them, his piety, and the proof he gave of it in dedicating these monoliths to the deity whom he especially wished to honour.

It has been already remarked that, with scarcely an exception, all the pyramids are on the west side of the Nile, all the obelisks on the

east; with regard to the former class of monument, this probably arose from a law of their existence, the western side of the Nile being in all ages preferred for sepulture, but with regard to the latter it seems to be accidental. Memphis doubtless possessed many monuments of this class, and there is reason to believe that the western temples of Thebes were also similarly adorned. They are, however, monuments easily broken; and, from their form, so singularly useful for many building purposes, that it is not to be wondered at if many of them have disappeared during the centuries that have elapsed since the greater number of them were erected.

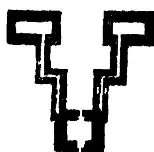
Domestic Architecture.

Except one small royal pavilion at Medinet Habou, no structure now remains in Egypt that can fairly be classed as a specimen of the domestic architecture of the ancient Egyptians; but at the same time we possess, in paintings and sculptures, so many illustrations of their domestic habits, so many plans, elevations, and views, and even models of their dwellings of every class, that we have no difficulty in forming a correct judgment not only of the style, but of the details, of their domestic architecture.

Although their houses exhibited nothing of the solidity and monumental character which distinguished their temples and palaces, they seem in their own way to have been scarcely less beautiful. They were of course on a smaller scale, and built of more perishable materials, but they appear to have been as carefully finished, and decorated with equal taste to that displayed in the greater works. We know also, from the tombs that remain to us, that, although the government of Egypt was a despotism of the strictest class, still the wealth of the land was pretty equally diffused among all classes, and that luxury and splendour were by no means confined either to the royal family or within the precincts of the palace. There is thus every reason to believe that the cities which have passed away were worthy of the temples that adorned them, and that the streets were as splendid and as tasteful as the public buildings themselves, and displayed, though in a more ephemeral form, the same wealth and power which still astonish us in the great monuments that remain.

No building can form a greater contrast with the temple behind it than does the little pavilion erected at Medinet Habou by Rhamses, the first king of the 19th dynasty. As will be seen by the annexed plan (woodcut No. 31), it is singularly broken and varied in its outline, surrounding a small court in the shape of a cross. It is 3 stories in height, and, properly speaking, consists of only 3 rooms on each floor, connected together by long winding passages. There is reason, however, to believe that this is only a fragment of the building, and foundations

exist which render it probable that the whole was originally a square of the width of the front, and had other chambers, probably only in wood or brick, besides those we now find. This would hardly detract from the playful character of the design, and when coloured, as it originally was, and with its battlements or ornaments complete, it must have formed a composition as pleasing as it is unlike our usual conceptions of Egyptian art.

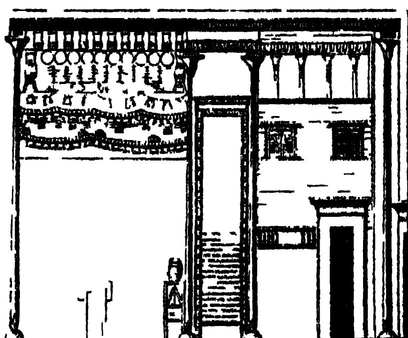


31. Pavilion at Medinet Habou. Scale 100 ft. to 1 in.



32. View of Pavilion at Medinet Habou.

The other illustration represents in the Egyptians' own quaint style a 3-storied dwelling, the upper storey apparently being like those of the Assyrians, an open gallery supported by dwarf columns. The lower windows are closed by shutters. In the centre is a staircase leading to the upper storey, and on the left hand an awning supported on wooden pillars, which seems to have been an indispensable part of all the better class of dwellings. Generally speaking, these houses are shown as situated in gardens laid out in a quaint formal style, with pavilions, and fishponds, and all the other accompaniments of gardens in the East at the present day.



33. Elevation of a House. From an Egyptian painting.

In all the conveniences and elegances of building they seem to have anticipated all that has been done in those countries down to the present day. Indeed, in all probability, the ancient Egyptians surpassed the modern in those respects as much as they did in the more important forms of architecture.

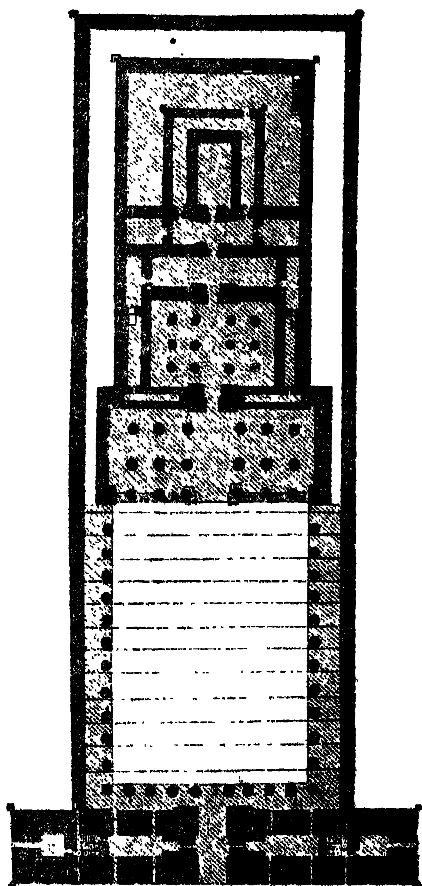
CHAPTER V.

GREEK AND ROMAN PERIOD.

CONTENTS.

Decline of art — Temples at Dendera — Kalabsche — Philæ.

The third stage of Egyptian art is as exceptional as the two which preceded it, and as unlike anything else which has occurred in any other lands.

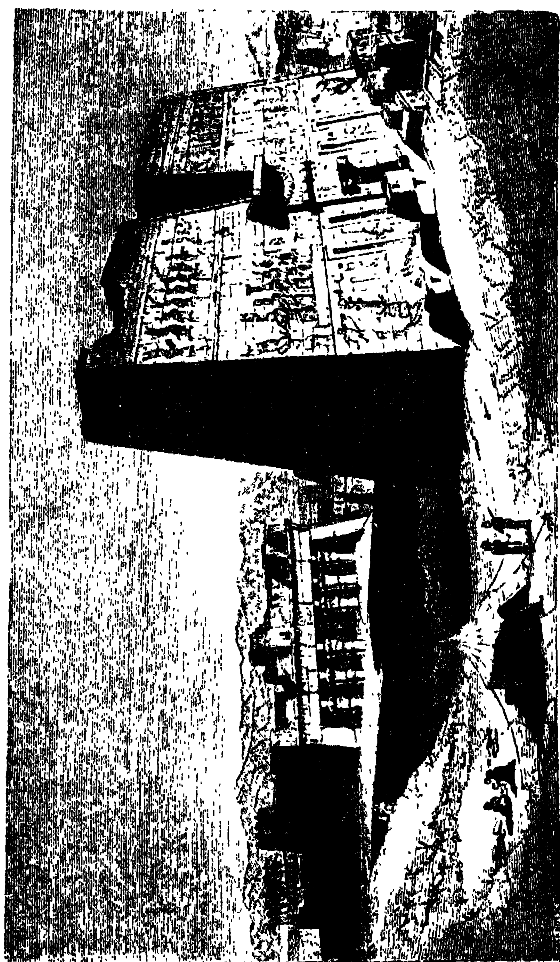


34. Plan of Temple at Edfou, Apollonopolis Magna. Scale 100 ft. to 1 in.

From the time of the 19th dynasty, with a slight revival under the Bubastite kings of the 22nd dynasty, Egypt sank through a long period of decay, till her misfortunes were consummated by the invasion of the Persians under Cambyses, 525 B.C. From that time she served in a bondage more destructive, if not so galling, as that of the Shepherd domination, till relieved by the more enlightened policy of the Ptolemies. Under them she enjoyed as great material prosperity as under her own Pharaohs; and her architecture and her arts too revived, not, it is true, with the greatness or the purity of the great national era, but still with much richness and material splendour.

This was continued under the Roman domination, and, judging from what we find in other countries, we would naturally expect to find traces of the influence of Greek and Roman art in the buildings of this age. So little, however, is this the case, that before the discovery of the reading of the hieroglyphic signs,

the learned of Europe placed the Ptolemaic and Roman temples of Dendera and Kalabsche before those of Thebes in order of date; and could not detect a single moulding in the architectural details, nor a single feature in the sculpture and painting which adorned their walls, which gave them a hint of the truth. Even Cleopatra the beautiful is represented on these walls with distinctly Egyptian features, and in

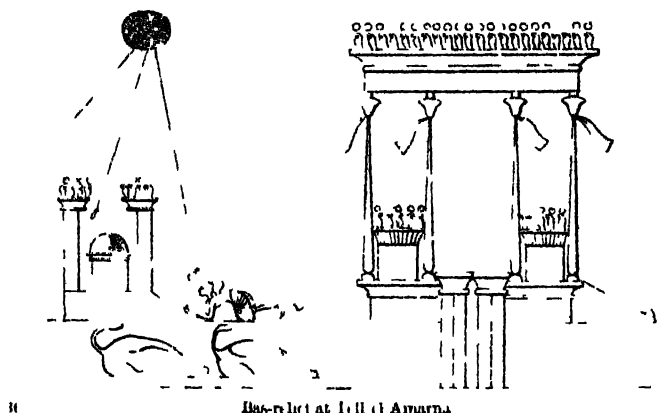


35. View of Temple at Edfou.

the same tight garments and conventional forms as were used in the portrait of Nophre Ari, Queen of Rhames, or in those of the wives of the possessors of tombs in the age of the Pyramids, 3000 years before. Egypt in fact conquered her conquerors, and forced them to adopt her customs and her arts, and to follow in the groove she had so long marked out for herself, and followed with such strange pertinacity.

Some of the temples of this age are, as far as dimensions and richness of decorations are concerned, quite worthy of the great age, though their plans and arrangements differ to a considerable extent. There is no longer any hesitation as to whether they should be called temples or palaces for they all are exclusively devoted to worship,—and to the worship of a heavenly God, not of a deified king.

What those arrangements are will be well understood from the annexed plan of that of Edfou (woodcut No. 34), which, though not the largest, is the most complete of those remaining. It is 450 ft. in length, and 155 in width, and covering upwards of 80,000 ft., its dimensions may be said to be equal to those of the largest of our mediæval cathedrals (Cologne or Amiens for instance). Part only of the whole structure (that which is shaded in the plan) is roofed, and therefore it can scarcely be compared with buildings entirely under one roof.



36. Bas-relief at Tell el Amarna.

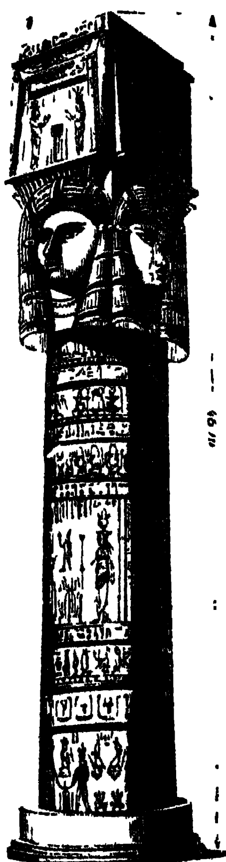
In front of the temple are two large and splendid pylons, with the gateway in the centre, making up a façade 225 ft. in extent. Although this example has lost its crowning cornice, its sculptures and ornaments are still very perfect, and it may altogether be considered as a fair specimen of its class, though inferior in dimensions to many of those of the great Pharaonic age. Within these is a court, 140 ft. by 161, surrounded by a colonnade on three sides, and rising by easy steps, the whole width of the court, to the porch or portico which, in Ptolemaic temples, takes the place of the great hypostyle halls of the Pharaohs. It is lighted from the front over low screens placed between each of the pillars, a peculiarity scarcely ever found in temples of earlier date, though apparently common in domestic edifices, or those formed of wood, certainly as early as the middle of the 18th dynasty, as may be seen from the annexed woodcut (No. 36), taken from a tomb of one of the sun-worshipping kings, who reigned between Amenophis III. and Horus. From this we pass into an inner and smaller porch, and again through

two passages to a dark and mysterious sanctuary, surrounded by darker passages and chambers, well calculated to mystify and strike with awe any worshipper or neophyte who might be admitted to their gloomy precincts.



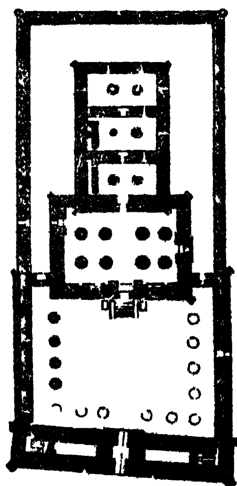
37 Façade of Temple at Dendera. Scale 50 ft. to 1 in.

The celebrated temple at Dendera is similar to this, and slightly larger, but it has no forecourt, no propylons, and no enclosing outer walls. Its façade is given in the woodcut (No. 37). Its Isis-headed columns are not equal to those of Edfou in taste or grace; but it has the advantage of situation, and this temple is not encumbered either by sand or huts, as the other is, so that its effect on travellers is always more striking.



38 Pillar, from the Portico at Dendera.

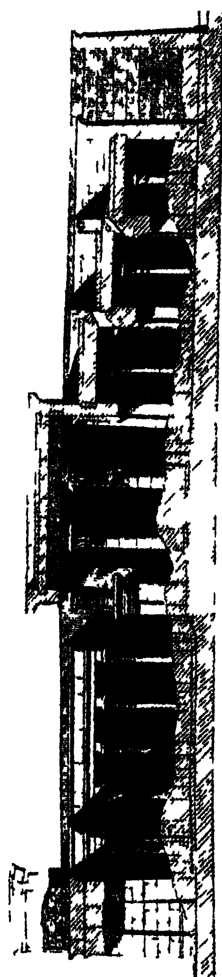
The Roman temple at Kalabsche (woodcuts Nos. 39 and 40), above the Cataract, is a fair specimen of these temples on a smaller scale. The section (woodcut No. 40) shows one of the modes by which a scanty light was introduced into the inner cells, and their gradation in height. The position, too, of its propylons is a striking instance of the irregularity which distinguishes all the later Egyptian styles from that of the rigid, proportion loving, pyramid-builders of Memphis.



39 Plan of Temple at Kalabsche. Scale 100 ft. to 1 in.

This irregularity of plan was nowhere carried to such an extent as in the Ptolemaic temple on the island of Philæ. Here no two buildings, scarcely any two walls, are on the same axis or parallel to one another. No Gothic architect in his wildest

monuments ever played so freely with his lines or dimensions, and none, it must be added, ever produced anything so beautifully picturesque as this. It contains all the play of light and shade, all the variety of Gothic art, with the massiveness and grandeur of the Egyptian style, and as it is still tolerably entire, and retains much of its colour, there is no building out of Thebes that gives so favourable an impression of Egyptian art as this. It is true it is far less sublime than many, but hardly one can be quoted as more beautiful.

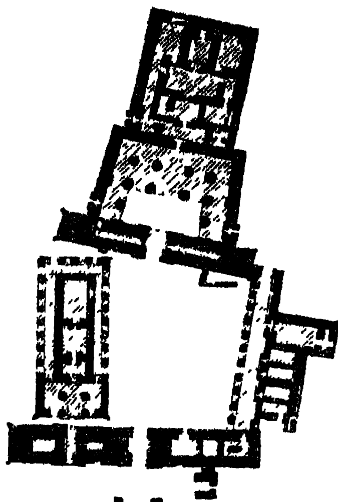

40. Section of Temple at Kalabshe. Scale 50 ft. to 1 in.

Notwithstanding its irregularity, this temple has the advantage of being nearly all of the same age and erected according to one plan, while the greater buildings at Thebes are often aggregations of parts of different ages, and though each is beautiful in itself, the result is often not quite so harmonious as might be desired. In this respect the Ptolemaic temples certainly have the advantage, inasmuch as they are all of one age, and all completed according to the plan on which they were designed, a circumstance which, to some extent at least, compensates for their marked inferiority in size and style, and the littleness of all the ornaments and details as compared with those of the Pharaonic period. It must at the same time be admitted that this inferiority is more apparent in the sculpture of the Ptolemaic age than in its architecture. The general design of the buildings is frequently grand and imposing, but the details are always inferior, and the sculpture and painting, which in the great age add so much to the beauty of the whole, are in the Ptolemaic age always frittered away, ill arranged, and unmeaning


41. View of Temple at Philæ.

—injurious to the general effect instead of heightening and improving it.

Strange as it may at first sight appear, we know less of the manners and customs of the Egyptian people during the Greek and Roman domination, than we do of them during the earlier dynasties. All the buildings erected after the time of Alexander which have come down to our time are essentially temples. Nothing that can be called a palace or pavilion has survived, and no tombs are known to exist. We have consequently no pictures of gardens, with their villas and fish-ponds; no farms, with their cattle; no farmyards, with their geese and ducks; no ploughing or sowing; no representations of the mechanical arts; no dancing or amusements; no arms or campaigns. Nothing, in short, but worship in its most material and least intellectual form.



42 Plan of Temple at Philæ. Scale 100 ft. to 1 in.

It is a curious inversion of the usually received dogmata on this subject, but as we read the history of Egypt as written on her monuments, we find her first wholly occupied with the arts of peace, agricultural and industrious, avoiding war and priestcraft, and eminently practical in all her undertakings. In the middle period we find her half political, half religious; sunk from her early happy position to a state of affairs such as existed in Europe in the Middle Ages. In her third and last stage we find her fallen under the absolute influence of the most degrading superstition. We know from her masters that she had no political freedom, and no external influence at this time; but we hardly expected to find her sinking deeper and deeper into superstition, at a time when the world was advancing forward with such rapid strides in the march of civilization, as was the case between the ages of Alexander and that of Constantine. It probably was in consequence of this retrograde course that her civilization perished so absolutely and entirely under the influence of the rising star of Christianity; and that, long before the Arab conquest, not a trace of it was left in any form. What had stood the vicissitudes of 3000 years, and was complete and stable under Hadrian, had vanished when Constantine ascended the throne.

If, however, their civilization passed so suddenly away, their buildings remain to the present day; and taken altogether, we may perhaps safely assert that the Egyptians were the most essentially a building

people of all those we are acquainted with, and the most generally successful in all they attempted in this way. The Greeks, it is true, surpassed them in refinement and beauty of detail, and in the class of sculpture with which they ornamented their buildings, while the Gothic architects far excelled them in constructive cleverness; but with these exceptions no other styles can be put in competition with them. At the same time, neither Grecian nor Gothic architects understood more perfectly all the gradations of art, and the exact character that should be given to every form and every detail. Whether it was the plain flat-sided pyramid, the crowded and massive hypostyle hall, the playful pavilion, or the luxurious dwelling—in all these the Egyptian understood perfectly both how to make the general design express exactly what he wanted, and to make every detail, and all the various materials, contribute to the general effect. They understood, also, better than any other nation, how to use sculpture in combination with architecture, and to make their colossi and avenues of sphinxes group themselves into parts of one great design, and at the same time to use historical paintings, fading by insensible degrees into hieroglyphics on the one hand, and into sculpture on the other—linking the whole together with the highest class of phonetic utterance. With the most brilliant colouring, they thus harmonised all these arts into one great whole, unsurpassed by anything the world has seen during the thirty centuries of struggle and aspiration that have elapsed since the brilliant days of the great kingdom of the Pharaohs.

CHAPTER VI.

ETHIOPIA.

CONTENTS

Kingdom of Meroe — Pyramids.

It was long a question with the learned whether civilization ascended or descended the Nile —whether it was a fact, as the Greeks evidently believed, that Meroë was the parent state whence the Egyptians had migrated to the north, bringing with them the religion and the arts which afterwards flourished at Thebes and Memphis, — or whether these had been elaborated in the fertile plains of Egypt, and only in later times had extended to the Upper Nile.

Recent discoveries have rendered it nearly certain that the latter is the correct statement of the facts—within historic times at least—that the fertile and easy cultivated Delta was first occupied and civilised; then Thebes, and afterwards Meroë. At the same time it is by no means improbable that the Ethiopians were of the same stock as the Thebans, though differing essentially from the Memphites, and that the former may have regarded these remote kindred with respect, perhaps even with a degree of half-superstitious reverence due to their remote situation in the centre of a thinly peopled continent, and have in consequence invented those fables which the Greeks interpreted too literally.

If any such earlier civilization existed in these lands, its records and its monuments have perished. No building is now found in Meroë whose date extends beyond the time of the great king Tirhakah, of the 25th Egyptian dynasty, B.C. 724 to 680, unless it be those bearing the name of one king, Amonm Gori, who was connected with the intruding race of sun-worshippers, which broke in upon the continuous succession of the kings of the 18th dynasty. Their monuments were all purposely destroyed by their successors; and almost the only records we have of them are the grottoes of Tell el Amarna, covered with their sculptures, which bear, it must be confessed, considerable resemblance in style to those found in Ethiopia. Even this indication is too slight to be of much value; and we must wait for some further confirmation before founding any reasoning upon it.

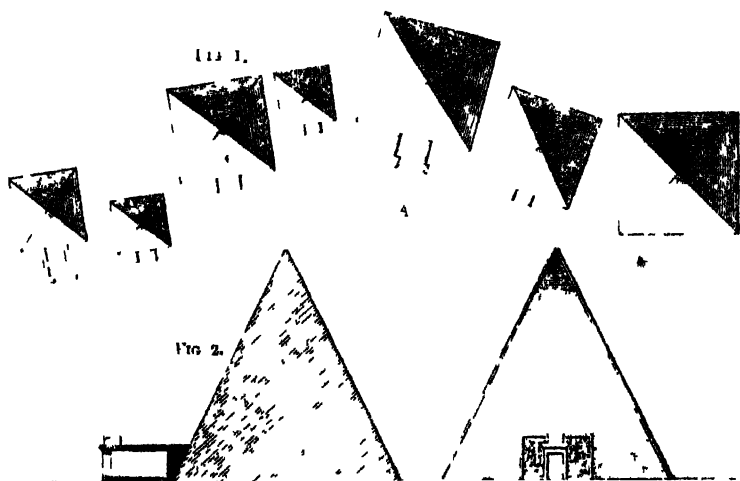
The principal monuments of Tirhakah are two temples at Gibel Barkal, a singular isolated mount near the great southern bend of the river. One is a large first-class temple, of purely Egyptian form and

design, about 500 ft. in length, by 120 or 140 in width, consisting of two great courts, with their propylons, and with internal halls and sanctuaries arranged much like those of the Rhamession at Thebes (woodcut No. 18), and so nearly also on the same scale as to make it probable that the one is a copy of the other.

The other temple placed near this, but as usual unsymmetrically, consists of an outer hall, internally about 50 ft. by 60, the roof of which is supported by 4 ranges of columns, all with capitals representing figures of Typhon or busts of Isis. This leads to an inner cell or sanctuary, cut in the rock.

There are smaller remains strewed about, indicating the existence of a city on the spot, but nothing of architectural importance.

The most remarkable monuments of the Ethiopian kingdom are the pyramids, of which 3 great groups have been discovered and described. The principal group is at a place called Daukelah, the assumed site of the ancient Meroe, in latitude 17 north. Another is at Gibel Barkal; the third at Nourri, a few miles lower down than the last named, but probably only another necropolis of the same city.



13 Pyramids at Meroe. From Hoskins' Travels in Ethiopia.
Fig. 1.—Plan of Principal Group. Scale 100 ft. to 1 inch. | Fig. 2.—Section and Elevation of that marked A. Scale 50 ft. to 1 inch.

Compared with the great Memphite examples, these pyramids are most insignificant in size—the largest at Nourri being only 110 ft. by 100, at Gibel Barkel the largest is only 88 ft. square, at Meroë none exceed 60 ft. each way. They differ also in form from those of Egypt, being much steeper, as their height is generally equal to the width of the base. They also all possess the roll-moulding on their angles, and all have a little porch or pronaos attached to one side, generally ornamented with sculpture, and forming either a chapel, or more probably

the place where the coffin of the deceased was placed. We know from the Greeks that, so far from concealing the bodies of their dead, the Ethiopians had a manner of preserving them in some transparent substance, which rendered them permanently visible after death.[1]

To those familiar with the rigid orientation of those of Lower Egypt, perhaps the most striking peculiarity of the pyramids is the more than Theban irregularity with which they are arranged, no two being ever placed, except by accident, at the same angle to the meridian, but the whole being grouped with the most picturesque diversity, as chance appears to have dictated.

Among their constructive peculiarities it may be mentioned that they seem all to have been first built in successive terraces, each less in dimensions than that below it, something like the great pyramid at Saccara (woodcut No. 8), these being afterwards smoothed over by the external straight-lined coating.

Like the temples of Gibel Barkal, all these buildings appear to belong to the Tirhakah epoch of the Ethiopian kingdom. It is extremely improbable that any of them are as old as the time of Solomon, or that any are later than the age of Cambyses, every indication seeming to point to a date between these two great epochs in the connection of African history with that of Asia.

The ruins at Wady el-Ooatib, a little further up, the Nile than Meroe, should perhaps be also mentioned here, if only from the importance given to them by Heeren, who thought he had discovered in them the ruins of the temple of Jupiter Ammon. They are, however, all in the debased style of the worst age of Ptolemaic or Roman art in that country. They are wholly devoid of hieroglyphics, or any indication of sanctity or importance, and there can be little doubt that they are the remains of a caravanserai on the great commercial route between Egypt and Axoum, along which the greater part of the trade of the East arrived at Alexandria in the days of its magnificence.

[1] Herodotus, iii. 24. Diodorus, ii. 15.

BOOK II.



CHAPTER I.

ASSYRIAN ARCHITECTURE.

INTRODUCTORY.

It is by no means impossible that the rich alluvial plain of Shinar may have been inhabited by man as early as the valley of the Nile; but if this were so, it is certain that the early dwellers in the land have left no trace of their sojourn which has as yet rewarded the research of modern investigators. So far indeed as our knowledge at present extends, we have proof of the existence of the primitive races of mankind in the valleys of France and England at a far earlier period than we trace their remains on the banks of either the Euphrates or the Nile. It is true these European vestiges of an early creation are not architectural, and have consequently no place here, except in so far as they free us from trammels of a chronology now admitted to be too limited in duration, but which has hitherto prevented us from grasping, as we might have done, the significance of architectural history in its earliest dawn.

Unfortunately for our investigation of Chaldean antiquity, the works of Berosus, the only native historian we know of, have come down to us in even a more fragmentary state than the lists of Manetho, and the monuments have not yet enabled us to supply those deficiencies so completely, though there is every prospect of their doing so to a considerable extent. In the meanwhile the most successful attempt to restore the text which has been made, is that of Herr Gutschmid,[1] and it is probable that the dates he assigns are very near the truth. Rejecting the 1st dynasty of 86 Chaldeans and their 34,080 years as mythical, or as merely expressing the belief of the historian that the country was

[1] Published in the 'Rheinischer Museum,' vol viii. p. 252, et seq.

inhabited by a Chaldean race for a long time before the Median invasion, he places that event 2458 B.C. His table of dynasties then runs thus:—

		Years.		B.C.
II.	8 Medes	224	commencing	2458
III.	11 Chaldeans	258	,,	2234
IV.	49 ,,	458	,,	1976
V.	9 Arabians	245	,,	1518
VI.	45 Assyrians	526	,,	1273
VII.	8 ,,	122	,,	747
VIII.	6 Chaldeans	87	,,	625
	Persian conquest			538

As every advance that has been made, either in deciphering the inscriptions or in exploring the ruins since this reading was proposed, have tended to confirm its correctness, it may fairly be assumed to represent very nearly the true chronology of the country from Nimrod to Cyrus. Assuming this to be so, it is interesting to observe that the conquest of Babylonia by the Medes only slightly preceded the invasion of Egypt by the Hyksos, and that the fortification of Avaris "against the Assyrians"[1] was synchronous with the rise of the great Chaldean dynasty, most probably under Nimrod B.C. 2234. If this is so, the whole of the old civilization of Egypt under the pyramid building kings had passed away before the dawn of history in Babylonia. The Theban kings of the 12th dynasty had spread their conquests into Asia, and brought back the reaction of the Scythic invasion on their own hitherto inviolate land, and by these great interminglings of the nations first raised Asia to a sense of her greatness.

What we learn from this table seems to be that a foreign invasion of Medes — whoever they may have been — disturbed the hitherto peaceful tenor of the Chaldean kingdom some 25 centuries before the Christian era.

They, in their turn, were driven out to make place for the Chaldean dynasties, which we have every reason to suppose were those founded by Nimrod about the year 2235 B.C.

This kingdom seems to have lasted about seven centuries without any noticeable interruption, and then to have been overthrown by an invasion from the west about the year 1518 B.C. Can this mean the Egyptian conquest under the kings of the great 18th dynasty?

The depression of the Chaldeans enabled the Assyrians to raise their heads and found the great kingdom afterwards known as that of Nineveh, about the year 1273. For six centuries and a half they were the great people of Asia, and during the latter half of that period built all those palaces which have so recently been disinterred.

They were struck down in their turn by the kings of Babylonia,

[1] Josephus contra Apion, i. 14.

who established the second Chaldean kingdom about the year 625, but only to give place to the Persians under Cyrus in the year 538, after little more than a century of duration

As in the valley of the Nile, the first kingdom was established near the mouths of the Euphrates, and flourished there for centuries before it was superseded by the kingdom of Nineveh in the same manner as Thebes, had succeeded to the earlier seats of power in the neighbourhood of Memphis.

Owing to the fortunate employment of sculptured alabaster slabs to line the walls of the palaces during the great period of Assyrian prosperity, we are enabled to restore the plan of the royal palaces of that period with perfect certainty, and in consequence of the still more fortunate introduction of stone masonry during the Persian period—after they had come into contact with the Greeks—we can understand the construction of these buildings, and restore the form of many parts which, being originally of wood, have perished. The plains of Shinar possessed no natural building-material of a durable nature, and even wood or fuel of any kind seems to have been so scarce that the architects were content too frequently to resort to the use of bricks only dried in the sun. The consequence is that the buildings of the early Chaldeans are now generally shapeless masses, the plans of which it is often extremely difficult to follow, and in no instance has any edifice been discovered so complete that we can feel quite sure we really know all about it. But the temples at Wurka and Mugheyr become intelligible by comparison with the Birs Nimroud and the so-called tomb of Cyrus, and the palaces of Nineveh and Khorsabad from the corresponding ones at Susa and Persepolis. Consequently, if we attempt to study the architecture of Chaldea, of Assyria, or of Persia, as separate styles, we find them so fragmentary, owing to the imperfection of the materials in which they were carried out, that it is difficult to understand their forms. But taken as the successive developments of one great style, the whole becomes easily intelligible; and, had the southern excavations been conducted with a little more care, there is perhaps no feature that would not have been capable of satisfactory explanation. Even as it is, however, the explorations of the last fifteen years have enabled us to take a very comprehensive view of what the architecture of the valley of the Euphrates was during the 2000 years it remained a great independent monarchy. It is a chapter in the history of architecture which is entirely new to us, and which may lead to the most important results in clearing our ideas as to the origin of styles. Unfortunately, it is only in a scientific sense that this is true. Except the buildings at Persepolis, everything is buried or heaped together in such confusion that the passing traveller sees nothing. It is only by study and comparison that the mind eventually realises the greatness and the beauty of the most gorgeous of Eastern monarchies, or that any one can be made to

feel that he actually sees the sculptures which a Sardanapalus set up, or the tablets which a Nebuchadnezzar caused to be engraved.

Owing to the fragmentary nature of the materials, it must perhaps be admitted that the study of the ancient architecture of Central Asia is more difficult and less attractive than that of other countries and more familiar forms. On the other hand, it is an immense triumph to the philosophical student of art to have penetrated so far back towards the root of Asiatic civilization. It is besides as great a gain to the student of history to have come actually into contact with the works of kings whose names have been familiar to him as household words, but of whose existence he had until lately no tangible proof.

In addition to this it must be admitted that the Assyrian exploration commenced in 1843 by M. Botta, at Khorsabad, and unfortunately brought to a close by the breaking out of the war in 1855, have added an entirely new chapter to our history of architecture; and, with the exception of that of Egypt, probably the most ancient we can even now hope to obtain. It does not, it is true, rival that of Egypt in antiquity, as the Pyramids still maintain a pre-eminence of a 1000 years beyond anything that has yet been discovered in the valley of the Euphrates, and we now know, approximately at least, what we may expect to find on the banks of that celebrated river. There is nothing certainly in India that nearly approaches these monuments in antiquity, nor in China or the rest of Asia, and in Europe, whatever may be maintained regarding primæval man, we can hardly expect to find any building of a date prior to the Trojan war. All our histories must therefore begin with Egypt and Assyria—beyond them all is speculation, and new fields can hardly be hoped for.

The Assyrian discoveries are also most important in supplying data which enable us to understand what follows, especially in the architectural history of Greece. No one now probably doubts that the Dorian Greeks borrowed the idea of their Doric order from the pillars of Beni Hassan (woodcuts Nos. 14 and 15) or Nubia—or rather perhaps from the rubble or brick piers of Memphis or Naucratis,[1] from which these rock-cut examples were themselves imitated. But the origin of the Ionic element always was a mystery. We knew indeed that the Greeks practised it principally in Asia Minor—hence its name, but we never knew how essentially Asiatic it was till the architecture of Nineveh was revealed to us, and till, by studying it through the medium of the buildings at Persepolis, we were made to feel how completely the Ionic order was a Grecian refinement on the wooden and somewhat Barbaric orders of the Euphrates valley.

It is equally, or perhaps almost more important to know, that in Chaldæa we are able to trace the origin of those Buddhist styles of art,

[1] If the Greeks traded to Naucratis as early as the 1st Olympiad.

which afterwards pervaded the whole of Eastern Asia, and it may be also the germs of the architecture of Southern India.[1] These affinities, however, have not yet been worked out, hardly even hinted at; but they certainly will one day become most important in tracing the origin of the religious development of the further East.

In these researches neither the literature nor the language of the country avail us much. If the affinities are ever traced, it will be through the architecture, and that alone; but there is every prospect of its proving sufficient for the purpose when properly explored.

It will hardly be necessary even to allude to the decipherment of the mysterious written characters of the Chaldeans. There is probably no one now living, who has followed up the course of the enquiry with anything like a proper degree of study, who has any doubt regarding the general correctness of the interpretation of the arrow-headed inscriptions. Singularly enough, the great difficulty is with regard to proper names, which as a rule were not spelt phonetically, but were made up of symbols. This is provoking, as these names afford the readiest means of comparing the monuments with our histories; and the uncertainty as to their pronunciation has induced many to fancy that the foundation of the whole system is unstable. But all this is becoming daily less and less important as the history itself is being made out from the monuments themselves. It may also be true, that when it is attempted to translate literally metaphysical or astrological treatises, there may still be differences of opinion as to the true meaning of a given passage; but plain historical narratives can be read with nearly as much certainty as a chapter of Herodotus or of Plutarch; and every day is adding to the facility with which they can be deciphered, and to the stock of materials and facts with which the readings may be checked or rectified.

From the materials already collected, combined with the chronology above sketched out, we are enabled to divide the architectural history of the Middle Asiatic countries during the period of their ancient greatness into three distinct and well defined epochs.

1st. The ancient Babylonian or Chaldean period, ranging from B.C. 2234 to 1520, comprising the ruins at Wurka, Mugheyr, Abu Shahrein, Niffer, Kalah Sherghat, &c. Temples, tombs, and private dwellings, all typical of a Turanian or Sythic race.

2nd. The Assyrian and second Chaldean kingdoms, founded about 1290 B.C., and extending down to the destruction of Babylon by Cyrus,

[1] When the 'Handbook of Architecture' was published in 1855, there existed no data from which these affinities could be traced. It is to the explorations of Sir Henry Rawlinson and Messrs. Taylor and Loftus that we owe what we now know on the subject; but even that is only an instalment.

538 B.C., comprising all the buildings of Nimroud, Koyunjik, Khorsabad, and those of second Babylon. An architecture essentially palatial, without tombs, and few temples, betokening the existence of a Semitic race.

3rd. The Persian, commencing with Cyrus, 538 B.C., and ending with Alexander, B.C. 333, comprising Passargadæ, Susa, and Persepolis. An architecture copied from the preceding: palatial, with rock-tombs and small temples. Aryan in its characteristics, and chiefly interesting as illustrating the styles from which it was derived.

None of these styles are perfectly pure, and distinct one from the other. The three races always inhabited the country as they do now. And as at this hour the Turk, the Arab, and the Persian, represent the three older races enumerated above. But each race was supreme in the order just given, and the style of each predominated during the period of their sway, though impregnated with the feelings and peculiarities of the other two. It is this, indeed, which gives the architecture of the country in that age its peculiar value to the archæologist. The three great styles of the world are here placed in such close juxtaposition, that they can be considered as a whole, illustrating and supplementing each other, but still sufficiently distinct never to lose their most marked characteristics. The materials are still, it must be confessed, somewhat scanty to make all this clear; but every day is adding to them, and, even now, no one familiar with architectural analysis can be mistaken in recognising the leading features of the investigation

CHAPTER II.

CHALDEAN TEMPLES.

CHRONOLOGY.

	DATES.		DATES.
Nimrud	B.C. 2234?	Shamas Vul (Kaleh Sherghat)	B.C. 1800
Urukh (Sowarkyeh, Wurka)	2093	Sin Shada (Wuswus)[2]	1700
Ilgi	2070	Sur Sin	1660
Chedorlaomer	1976	Purna Puryas	1600
Ismi Dagon	1850	Arab conquerors	1500?[1]

ALREADY the names of 15 or 16 kings belonging to these old dynasties have been recovered, and the remains of some 10 or 12 temples have been identified as founded by them; but unfortunately none of these are in a sufficiently perfect state to afford any certainty as to their being entirely of this age, and all are in such a state of ruin that, making use of all the information we possess, we cannot yet properly restore a temple of the old Chaldean epoch.

Notwithstanding this, it is a great gain to the history of architecture to have obtained so much knowledge as we have of temples, which were only known to us before from the vague description of the Greeks, and which are the earliest forms of a type of temples found afterwards continually cropping up in the East.

It would be contrary to all experience to suppose that a people of Turanian origin should be without temples of some sort, but, except the description by the Greeks of the temple or tomb of Belus, we have nothing to guide us. We have now a fair idea what the general outline of their temples was, and even if we cannot trace their origin, we can at least follow their descendants. There seems now no doubt but that many, perhaps most of the Buddhist forms of architecture in India and further eastward, were derived from the banks of the Euphrates. Many of the links are still wanting; but it is something to know that the Birs Nimroud is the type which two thousand years afterwards was copied at Pagam in Burmah, and Boro Buddor in Java; and that the

[1] The chronology here given is based on the various papers communicated by Sir Henry Rawlinson to the Journal of the Royal Asiatic Society, vol. x. et seq., and to the 'Athenæum' journal. The whole has been abstracted and condensed in his brother's 'Five Great Monarchies of the Ancient World;' from which work the tables here given are taken in an abridged form.

descent from these can easily be traced in those countries and in China to the present day.

The principal reason why it is so difficult to form a distinct idea of this old form of temple is, that the material most employed in their construction was either crude, sun-dried, or very imperfectly burnt bricks; or when a better class of bricks was employed, as was probably the case in Babylon, they have been quarried and used in the construction of succeeding capitals. A good deal also is owing to the circumstance that those who have explored them have in many cases not been architects, or were persons not accustomed to architectural researches, and who consequently have failed to seize the peculiarities of the building they were exploring.

Under these circumstances, it is fortunate that the Persians did for these temples exactly what they accomplished for the palace forms of Assyria. They repeated in stone in Persia what had been built in the valley of the Euphrates and Tigris with wood or with crude bricks. It thus happens that the so called tomb of Cyrus in Passargadæ enables us to verify and to supply much that is wanting in the buildings at Babylon, and to realise much that would be otherwise indistinct in their forms.

The oldest temple we know of at present is the Bowariyeh at Wurka (Erek), erected by Urukh, at least 2000 years B.C.; but now so utterly ruined, that it is difficult to make out what it originally was like. It seems, however, to have consisted of two storeys at least: the lowest about 200 feet square, of sun-dried bricks: the upper is faced with burnt bricks apparently of a more modern date. The height of the two storeys taken together is now about 100 feet, and it is nearly certain that a third, or chamber storey existed above what now appears.[1]

The Mugheyr Temple[2] is somewhat better preserved, but in this case it is only the lower storey that can be considered old. The cylinders found in the angles of the upper part belong to Nabonidus, the last king of the later Babylonian kingdom; and the third storey only exists in tradition. Still, from such information as we have, we gather that its plan was originally a rectangle 198 feet by 133, with nine buttresses in the longer and six in the shorter faces. The walls slope inwards in the ratio of 1 in 10. Above them was a second storey 119 feet by 75, placed as is usual near one end of the lower storey, so as to admit of a staircase being added at the other. It is 47 feet distant from the south eastern end, and only 28 or 30 from the other; but whether the whole of this was occupied by a flight of steps or not is by no means clear. Taken altogether, the plan and probable

[1] Loftus, 'Chaldæa and Babylonia,' p. 167.
[2] Journal R. A. S., vol. xv. p. 260, et seq.

appearance of the building when complete may have been something like that represented in woodcuts Nos. 44 and 45, though there are too many elements of uncertainty to make it a restoration which can altogether be depended upon.

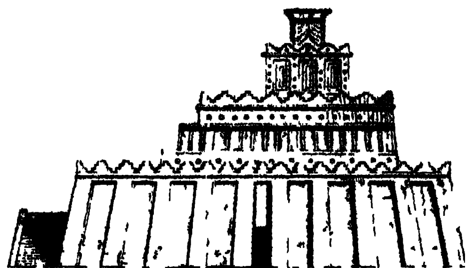
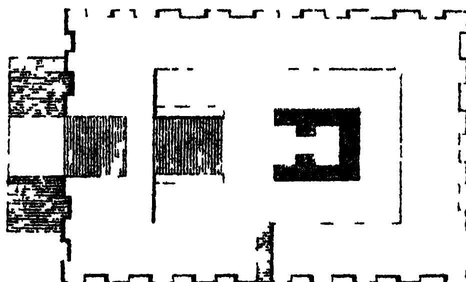


Diagram of Elevation of Temple at Mugheyr. 100 ft. to 1 inch.



45 Plan of Temple at Mugheyr. Scale 100 ft. to 1 in.

The typical example of this class of temples is the Birs Nimroud,[1] near Babylon. It is true that as it now stands every brick bears the stamp of Nebuchadnessar, by whom it was repaired, perhaps nearly rebuilt; but there is no reason for supposing that he changed the original plan, or that the sacred form of these temples had altered in the interval. It owes its more perfect preservation to the fact of the upper storey having been vitrified after erection by some process we do not quite understand. This now forms a mass of slag, which has to a great extent protected the lower storeys from atmospheric influences.

In so far as it has been explored, the lower storey forms a perfect square, 272 feet each way. Above this are six storeys, each 42 feet less in horizontal dimensions. These are not placed concentrically on those below them, but at a distance of only 12 feet from the south-eastern edge, and consequently 30 feet from the N.W., and 21 feet from the two other sides.

The height of the three upper storeys seems to have been ascertained

[1] Journal R. A. S., vol. xviii. p. 1, et seq., Sir H. Rawlinson's paper, from which all the information here given regarding the Birs is obtained.

with sufficient correctness to be 15 feet each, or 45 feet together. Unfortunately no excavation was undertaken to ascertain the height of the lowest and most important storey. Sir Henry Rawlinson assumes it at 26; and I have ventured to make it 45, from the analogy of the

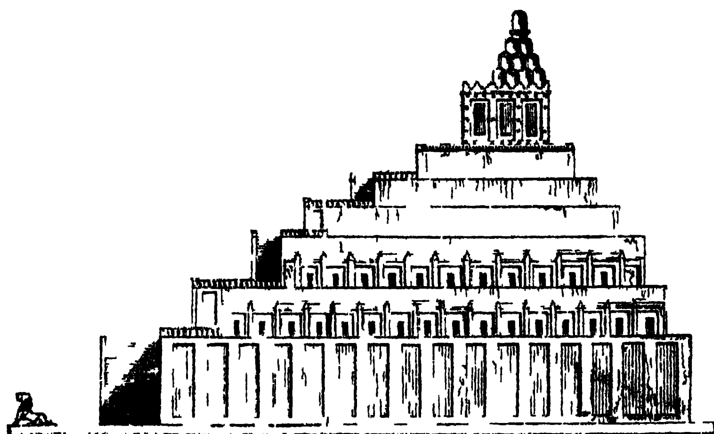


Diagram Elevation of Birs Nimroud. Scale 100 ft. to 1 in.

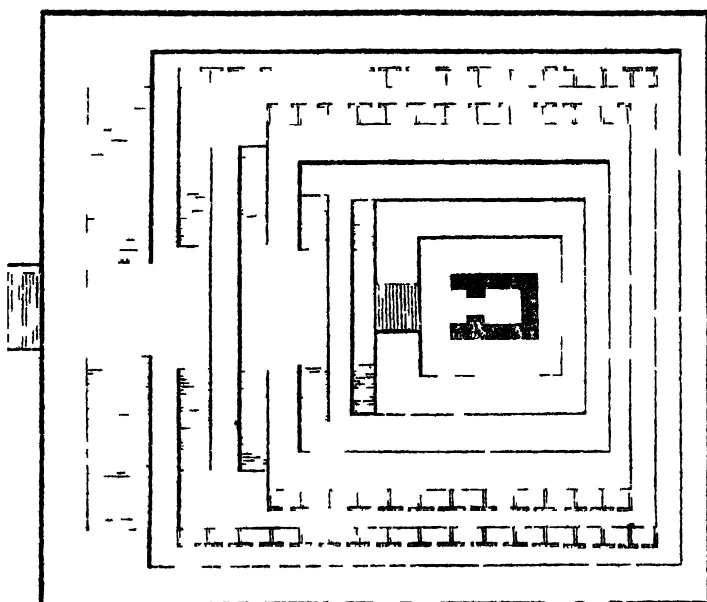


Diagram Plan of Birs Nimroud. Scale 100 ft. to 1 in.

tomb of Cyrus and the temple at Mugheyr. The height of the two intermediate storeys, instead of being 22 feet 6 inches, as we might expect, was 26, which seems to have resulted from some adjustment

due to the chambers which ranged along their walls on two sides. The exact form and dimensions of these chambers were not ascertained, which is very much to be regretted, as they seem the counterpart of those which surrounded Solomon's temple and the Viharas in India, and are consequently among the most interesting peculiarities of this building.

No attempt was made to investigate the design of the upper storey, though it does not seem that it would be difficult to do so, as fragments of its vaulted roof are strewed about the base of the tower-like fragment that remains, from which a restoration might be effected by any one accustomed to such investigations.[1] What we do know is that it was the cella or sanctuary of the temple.[2] There probably also was a shrine on the third platform.

This temple, as we know from the decipherment of the cylinders which were found on its angles, was dedicated to the seven planets or heavenly spheres, and we find it consequently adorned with the colours of each. The lower, which was also richly panelled, was black, the colour of Saturn; the next, orange, the colour of Jupiter; the third, red, emblematic of Mars; the fourth, yellow, belonging to the sun; the fifth and sixth, green and blue, respectively, as dedicated to Venus and Mercury; and the upper probably white, that being the colour belonging to the Moon, whose place in the Chaldæan system would be uppermost.

Access to each of these storeys was obtained by stairs, probably arranged as shewn in the plan; these have crumbled away or been removed, though probably traces of them might still have been found if the explorations had been more complete.

Another temple of the same class was exhumed at Khorsabad some ten or twelve years ago by M. Place, but his drawings are still unpublished.[3] It consisted, like the one at Borsippa, of seven storeys, but, in this instance, each was placed concentrically on the one below it; and instead of stairs on the sloping face, a ramp wound round the tower, as we are told was the case with the temple of Belus at Babylon. The four lower storeys are still perfect: each of them is richly pannelled and coloured as above mentioned, and in some parts even the parapet of the

[1] Flandin and Coste, 'Voyage en Perse,' vol. iv. pl. 221.

[2] I have ventured to restore the roof of the cella with a sikra (ziggur or zigguruh, according to Rawlinson's 'Five Ancient Monarchies,' vol. i. p. 393, et passim), from finding similar roofs at Susa, Bagdad, Kefleh, &c. These are certainly indigenous, and borrowed from some older type, whether exactly what is represented here is not clear, it must be confessed. It is offered as a suggestion, the reason for which will be given when we come to speak of Buddhist or Saracenic architecture.

[3] I have seen the drawings of the temple in Paris. They are preparing for publication, but it may yet be a long time before they are in the hands of the public; and they are so mixed up with such strange theories of restoration as to detract considerably from their value.

ramp still remains *in situ*. The three upper storeys are gone, so that this building throws no light on the position or form of the cella, which would be the most interesting part of any.

Unless some bas-relief should be discovered containing a representation of the cell of one of these temples, we shall probably hardly ever know exactly what the form of the crowning member really was. From the imitation in modern times we seem to see dimly that it was conical, and possibly curvilinear. But of this more hereafter; meanwhile our information is hardly sufficient to suggest a restoration without the danger of misleading.

The inscriptions at Borsippa and elsewhere mention other temples of the same class, and no doubt those of Babylon were more magnificent than any we have yet found, but they must always have been such prominent objects, and the materials of which they were composed so easily removed, that it is doubtful if anything more perfect will now be found.

The Mujelibé described by Rich, and afterwards explored without success by Layard, is probably the base of the great temple of Belus described by the Greeks but even its dimensions can now hardly be ascertained, so completely is it ruined. It seems, however, to be a parallelogram of about 600 feet square,[1] and rising to a height of about 140 feet, but no trace of the upper storeys exist, nor indeed anything which would enable us to speak with certainty of the form of the basement itself If this is the height of the basement however, analogy would lead us to infer that the six storeys rose to a height of about 450 feet, and with the ziggurah or sikra on their summit, the whole height may very well have been the stadium mentioned by Strabo.[2]

As before mentioned, we have fortunately in the tomb of Cyrus at Passargadæ (woodcuts Nos. 48 to 50) a stone copy of these temples; in this instance however so small that it can hardly be considered as more than a model, but not the less instructive on that account. Like the Birs Nimroud, the pyramid consists of six storeys. the three upper of equal height. In this instance, 23½ inches; the next two are equal to each other, and, as in the Birs Nimroud, in the ratio of 26 to 15, or 41 inches. The basement is equal to the three upper put together, or 5 ft. 9 in., making a total of 18 ft. 4 in[3] The height of the cella is equal to the height of the basement, but this may be owing to the small size of the whole edifice, it being necessary to provide a chamber of a given dimension for the sepulchre. In the larger temples, it may be surmised that the height was divided into four nearly equal parts: one being given to the basement, one to the two next storeys, one to the three upper storeys, and the fourth to the chamber on the summit.

[1] Rich gives its dimensions: on the north, 600 feet; south, 657; east, 546, and west, 408. But it is so ruinous that only an average guess can be made at its original dimensions.

[2] Strabo, xvi. p. 738.

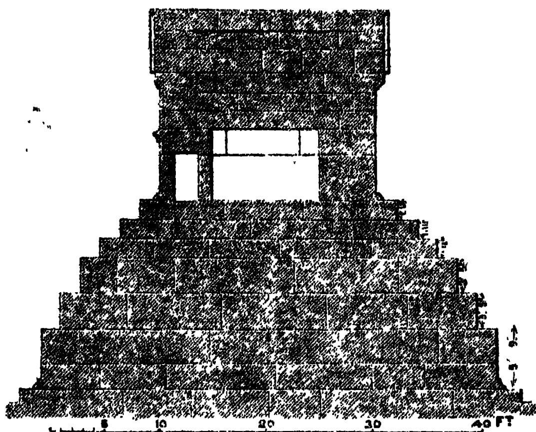
[3] There is a slight discrepancy in the measures, owing to the absence of fractions in the calculation.



Tomb of Cyrus.

Plan of Tomb of Cyrus, Pasargadæ. From Texier.

This building is now called the tomb of Cyrus, and most probably was so, though copied from a form which we have just been describing as a temple. But it must be borne in mind that the most celebrated example of this form is as often called the tomb as the temple of Belus,[1] and among a Turanian people the tomb and the temple may be considered as one and the same thing.



50. Section of Tomb of Cyrus. From Flandin and Coste.

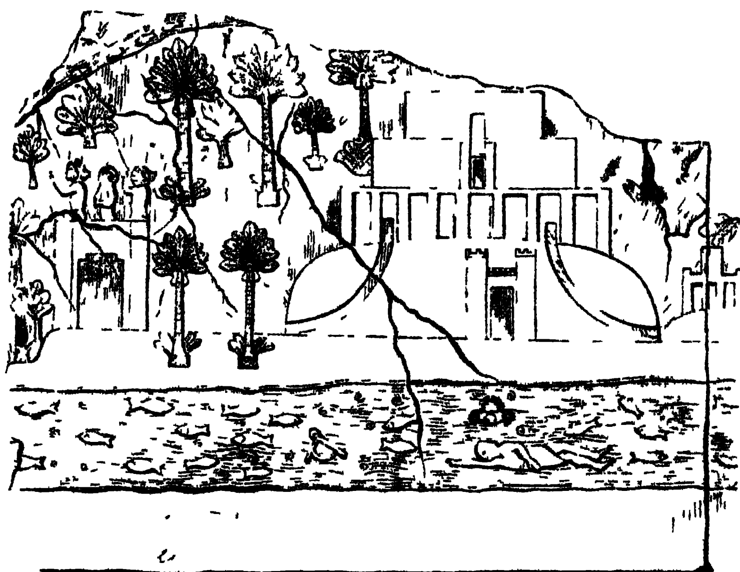
Another peculiarity worth observing is that instead of the walled enclosure that surrounded the Birs Nimroud,[2] we have here an open screen of pillars standing 14 feet apart, but certainly not part of a cloister, nor probably even supporting an entablature, being mere steles to mark the boundary of the sacred enclosure. The interest of this will be apparent when we come to speak of Buddhist art; all that is required is to direct attention to it here.

There is one other source from which we may hope to obtain information regarding these temples, and that is the bas-reliefs on the walls of the Assyrian palaces. They drew architecture however so badly, that it is necessary to be very guarded in considering such representations as more than suggestions; but the annexed woodcut (No. 51) does seem to represent a four-storeyed temple, placed on a mound, with very tolerable correctness, and if the upper storey had not been broken away the drawing might have given us a valuable hint as to the form and purposes of the cella, which was the principal object of the erection. Its colouring, too, is gone; but the certain remains of symbolical colours at Borsippa and Khorsabad confirm so completely the Greek accounts of the seven-coloured walls of Ecbatana that with the other indications of the same sort extant that branch of the enquiry may be considered as complete.

[1] It is called tomb by Strabo, lib. xvi., and Diodorus, xvii. 112, 3; temple, Herodotus, i. 181, Arrian, vii. 17, 2, Pliny, vi. 26.

[2] See plan by Ker Porter, vol. ii. p. 323.

It is to be hoped that now that the thread is caught, it will be followed up till this form of temple is thoroughly investigated; for to the philosophical student of architectural history few recent discoveries are of more interest. There hardly seems a doubt but that many temples found further eastward are the direct lineal descendants of these Babylonian forms; though we as yet can only pick up here and there the missing links of the chain of evidence which connects the one with the other. We know, however, that Buddhism is essentially the religion of a Turanian people, and it has long been suspected that there was some connection between the Magi of Central Asia and the priests of that religion, and that some of its forms at least were elaborated in the valley of the Euphrates. If the architectural investigation is fully carried out, I feel convinced we shall be able to trace back to their source many things which hitherto have been unexplained mysteries, and to complete the history of this form of temple and of the religion to which it belonged from the Bowariyeh at Wurka, built 2000 years B.C., to the Temple of Heaven erected in the city of Pekin within the limits of the present century.



51 Representation of a Temple From a Bas-relief from Koyunjik.

CHAPTER III.

ASSYRIAN PALACES.

CHRONOLOGY

	Dates		Dates
Shalmanaser I founded Nimroud . .	B.C. 1290	Tiglath Pileser II (south eastern palace, Nimroud	B.C. 744
Tiglathi Nin, his son (Ninus?) .	1270	Shalmaneser IV	726
Tiglath Pileser . . .	1150	Sargon (palace, Khorsabad)	721
Asshur-bani-pal (north-west palace, Nimroud)	886	Sennacherib (palace, Koyunjik) . . .	704
Shalmaneser II (central palace, do) .	859	Esarhaddon (south-western palace, Nimroud)	680
Shamas Iva	822	Sardanapalus (central palace, Koyunjik)	667
Iva Lush IV	810	Destruction of Nineveh	625
Interregnum			

All the knowledge which we in reality[1] possess regarding the ancient palatial architecture of the Euphrates valley, is derived from the exploration of the palaces erected by the great Assyrian dynasty of Nineveh during the two centuries and a half of its greatest prosperity. Fortunately it is a period regarding the chronology of which there is no doubt, since the discovery of the Assyrian Canon by Sir Henry Rawlinson,[2] extending up to the year 900 B.C., this, combined with Ptolemy's Canon, fixes the date of every king's reign with almost absolute certainty. It is also a period regarding which we feel more real interest than almost any other in the history of Asia. Almost all the kings of that dynasty carried their conquering arms into Syria, and their names are familiar to us as household words, from the record of their wars in the Bible. It is singularly interesting not only to find these records so completely confirmed, but to be able to study the actual works of those very kings, and to analyse their feelings and

[1] This chapter and that next following may be regarded as, in all essential respects, an abridgment or condensation of the information contained in a work published by the author in 1851, entitled, 'The Palaces of Nineveh and Persepolis Restored,' the only real difference being that the more perfect decipherment of the inscriptions since that work was published has caused some of the palaces and buildings to be ascribed to different kings and dynasties from those to whom they were then assigned, and proved their dates to be more modern than was suspected, for the oldest at least. The order of their succession, however, remains the same, and so consequently do all the architectural inferences drawn from it. Those readers who may desire further information on the subject are referred to the work alluded to.

[2] Published in 1862, in the 'Athenæum' journal, No. 1812.

aspirations from the pictures of their actions and pursuits which they have left on the walls of their palaces.

From the accounts left us by the Greeks we are led to suppose that the palaces of Babylon were superior in beauty and magnificence to those of Nineveh; and judging from the extent and size of the mounds still remaining there, it is quite possible that such may have been the case, but they are so completely ruined, and have been so long used as quarries, that it is impossible to restore, even in imagination, these now formless masses.

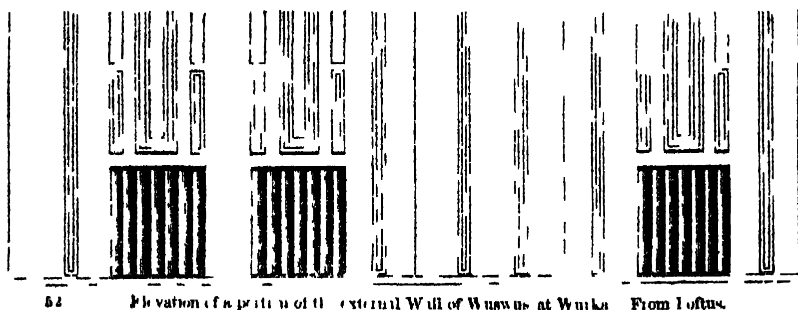
One thing seems nearly certain, which is, that no stone was used in their construction. If, consequently, their portals were adorned with winged bulls or lions, they must have been in stucco. If their walls were covered with scenes of war or the chase, as those of Nineveh, they must have been painted on plaster: so that, though their dimensions may have been most imposing, and their splendour dazzling, they must have wanted the solidity and permanent character so essential to true architectural effect.

It is the employment of stone which alone has enabled us to understand the arrangements of the Assyrian palaces. Had not their portals been marked by their colossal genii, we should hardly have known where to look for them; and if the walls of their apartments had not been wainscoted with alabaster slabs, we should never have been able to trace their form with anything like certainty. Practically, all we know of Assyrian art is due to the fact of their having so suitable a material as alabaster close at hand, and to the skill with which they knew how to employ it. Had their walls only been plastered, the mounds of Khorsabad and Nimroud would have remained as mysterious now as they were before Layard and Botta revealed to us their splendours.

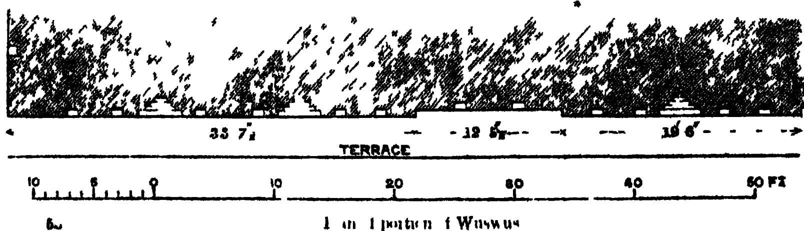
The only exception to these remarks which have yet come to light is the so-called Wuswus ruin at Wurka.[1] Whether it is a palace or not is by no means clear, as the interior is too much ruined for its plan to be traced with certainty: and its date cannot be fixed from any internal evidence. Some of the bricks used in its construction bear the name of Sin Shada, 1700 B.C., but it is suspected they may have been brought from an older edifice. Nor does the style of its architecture help us at present. The same sort of pannelling was used by Sargon at Khorsabad 1000 years after the assumed date; and pannelling very like it is used even in the age of the Pyramids (woodcuts Nos. 9 and 10) 1000 years at least before that time. With more knowledge we may recognise minor features which may enable us to discriminate more exactly, but at present we only know that this class of pannelling was used for the adornment of external

[1] Loftus, 'Chaldea and Babylonia,' p. 188.

walls from the earliest ages down at least to the destruction of Babylon. It was probably used with well marked characteristics in progression of style; but these we have yet to ascertain. Externally the Wuswus is a parallelogram 216 ft. by 173. Like almost every building in the Euphrates valley in those ancient times, instead of the sides facing the cardinal points of the compass, as was the case in Egypt in the Pyramid age, the angles point towards them. In this case the entrance is in the North-east face. The centre apparently was occupied by a court, and opposite the entrance were two larger and several smaller apartments, the larger being 57 ft. by 30. The great interest of the building lies in the mode in which the external walls were ornamented (woodcuts Nos. 52 and 54). These were plastered and covered by an



52. Elevation of a portion of the External Wall of Wuswus at Warka. From Loftus.

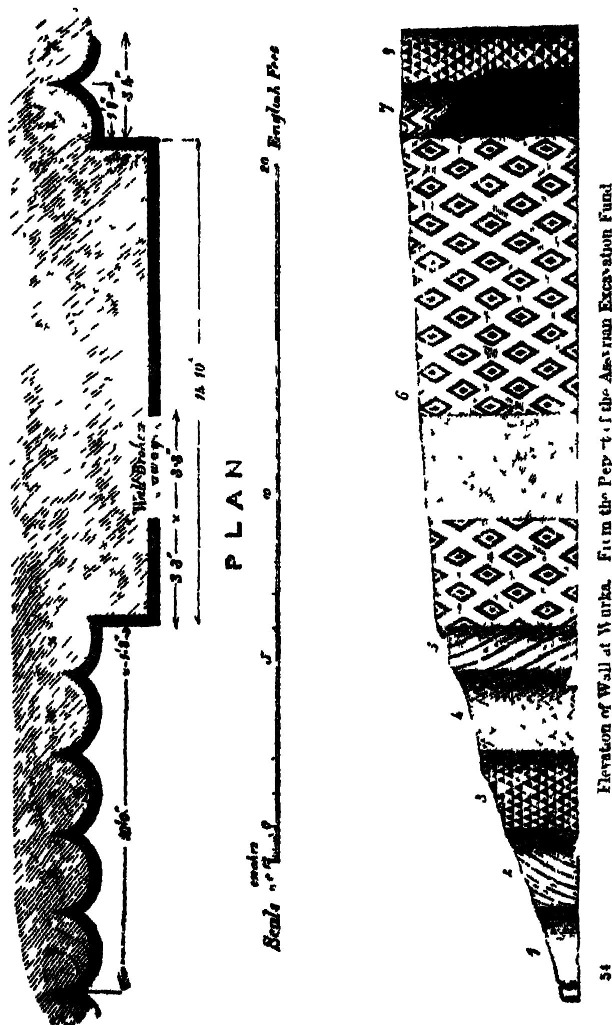


53. Plan of portion of Wuswus.

elaborate series of reedings and square sinkings, forming a beautiful and very appropriate mode of adorning the wall of a building that had no external openings.

This system is carried still further in a fragment of a wall in the same city, but of uncertain date. In this instance these reedings—there are no panels in the smaller fragment—and the plain surfaces are ornamented by an elaborate mosaic, of small cones about 3 or 3½ in. long. The butt or thicker end of these is dipped in colour, and they are then built up into patterns as shown in the woodcut No. 54. It is probable that the walls of the Wuswus were adorned with similar patterns in colours, but being executed in less durable materials have perished. Indeed from the accounts which we have, as well as from

the remains, we are justified in asserting that this style of architecture depended for its effect on colour as much, at least, if not more, than on form. Could colour be made as permanent this might frequently be wise, but too great dependence on it has deprived us of half the knowledge we might otherwise possess of the architectural effects of other times.



Elevation of Wall at Warka. From the Report of the Assyrian Excavation Fund

NINEVEH.

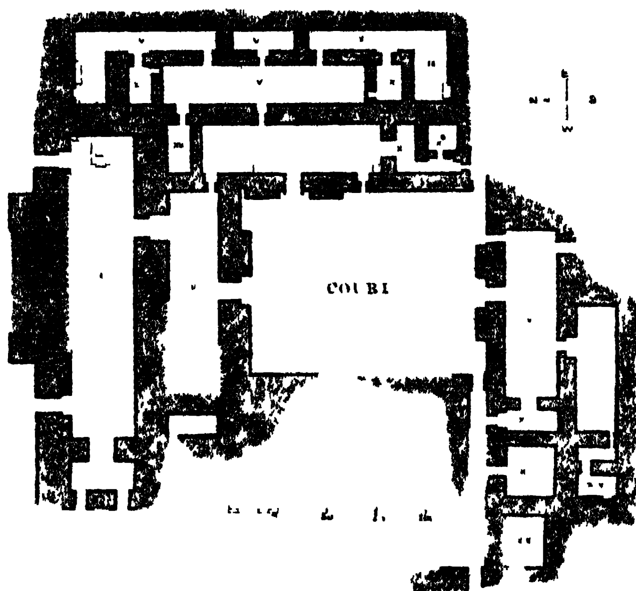
Notwithstanding the wonderful results that were achieved in the ten or twelve years during which the Assyrian explorations were

pursued with activity, it is by no means impossible but that much more still remains to reward an energetic and skilful research in these mounds. Still seven palaces have been more or less perfectly exhumed; four at Nimroud, two at Koyunjik, and one at Khorsabad. Among these we have the palaces of Sennacherib and Sardanapalus, of Esarhaddon, Sargon, Shalmanesor, and probably of Tiglath pileser. Consequently the palaces of all the great kings, whose names are so familiar to us, are laid bare. Beyond these, the palace of Asshur-bani-pal worthily commences the series before the kings of Assyria came into contact with the inhabitants of Syria, and consequently before the Biblical record begins. It may be that other works of the same kings may be discovered, or the buildings of some less celebrated monarch, but if we do not know all that is to be known, we may rest assured that we already have acquired the greater part of the knowledge that is to be obtained from these explorations.

Nimroud.

The oldest of the buildings hitherto excavated in Assyria is the North-West palace at Nimroud, built by Asshur-bani-pal, about the year 881 B.C. Though not the largest, it more than makes up for this deficiency by the beauty of its sculptures, and the general elegance of its ornaments. As will be seen by the annexed woodcut (No. 55), the excavated portion of the palace is nearly a square, about 330 ft. each way. The principal entrance was on the north, at the head of a noble flight of steps, leading from the river to the level of the terrace on which the palace stood. From this, two entrances, adorned with winged bulls, led to a great hall, 152 ft. in length by 32 in width, at the upper end of which was situated the throne, and at the lower a smaller apartment or vestibule opened on the terrace that overlooked the river. Within the great hall was one of smaller dimensions, opening into the central court of the palace, the entrance of which was so arranged as to ensure privacy, proving that it partook of the nature of the private apartments or Hareem of the palace. To the eastward of this was arranged a suite of apartments, three deep, decreasing in width as they receded from the light. To the south was a double suite, apparently the banqueting-halls of the palace, and to the westward a fourth suite, more ruined, however, than the rest, owing to its being situated so near the edge of the terrace. As far as can be made out, the rooms on this face seem to have been arranged three deep: the outer opening on the terrace by three portals, the central one of which had winged bulls, but the lateral seem to have been without these ornaments; the whole façade being about 330 ft. in extent, north and south.

All these apartments were lined with sculptured slabs, representing mostly either the regal state of the sovereign, his prowess in war, or amusements during peace, but many of them were wholly devoted to religious subjects. Beyond these apartments were many others, covering at least an equal extent of ground, but, their walls having been only plastered and painted, the sun-burnt bricks of which they were built have crumbled again to their original mud. It is evident, however, that they were inferior to those already described, both in form and size, and applied to inferior purposes.



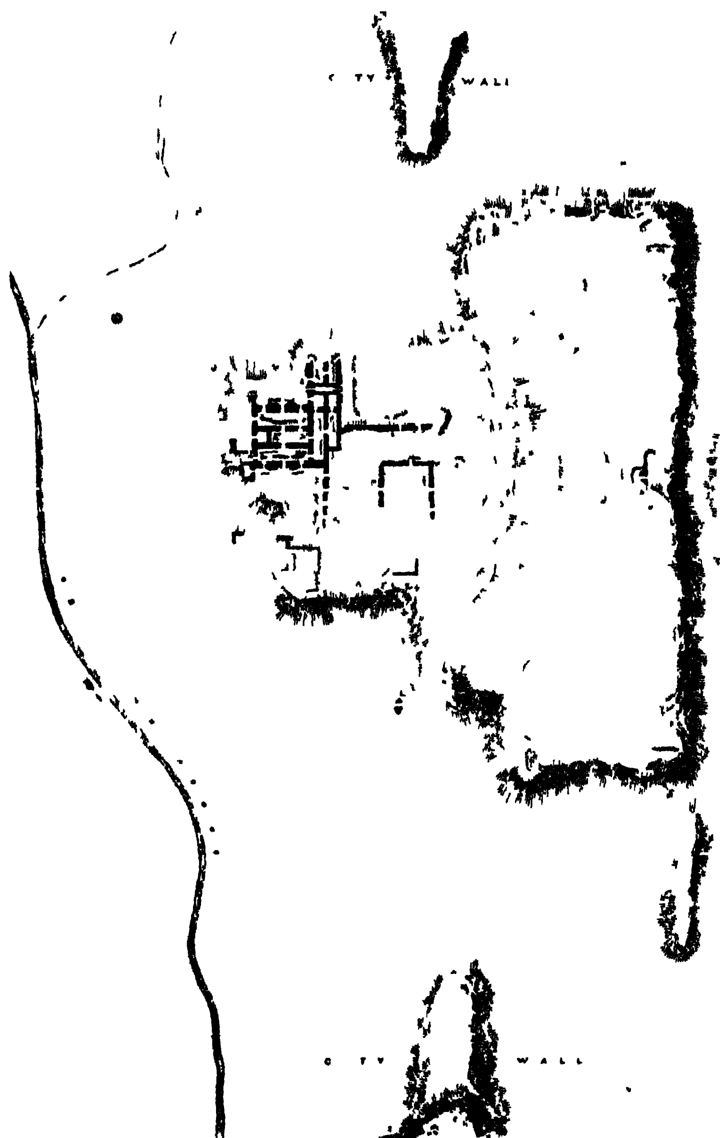
55. North West Palace at Nimroud.[1] Scale 100 ft. to 1 in.

The mound at Nimroud was so much extended after this palace was built, and so covered by subsequent buildings, that it is now impossible to ascertain either the extent or form of this, which is the only palace of the older dynasty known, and it will therefore perhaps be as well to turn at once to Khorsabad, which, being built wholly by one king, and not altered afterwards, will give a clearer idea of the position and arrangements of an Assyrian palace than we can obtain from any one on the Nimroud mound.

[1] This plan, with all the particulars here mentioned, are taken from Layard's work, which is the only authority on the subject, so that it is not necessary to refer to him on every point. The plan is reduced to the usual scale of 100 ft. to 1 inch, for easy comparison with that at Khorsabad and the Persepolitan and other edifices quoted.

Khorsabad

The city of Khorsabad was situated about 15 miles from Nineveh,

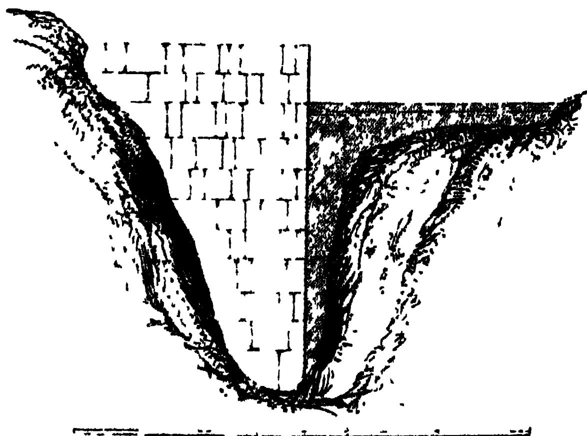


Plan of Palace at Khorsabad. No scale.

in a northerly direction, and was nearly square in plan, measuring about an English mile each way. Nearly in the centre of the north-

western wall was a gap, in which was situated the mound on which the palace stood. It seems to have been a peculiarity common to all Assyrian palaces to be so situated. Their builders wisely objected to being surrounded on all sides by houses and walls, and at the same time sought the protection of a walled enclosure to cover the gateways and entrances to their palaces. At Koyunjik and Nimroud the outer face of the palace was covered and protected by the river Tigris, and here the small brook Kausser flows past the fort, and, though now an insignificant stream, it is by no means improbable that it was dammed up so as to form a lake in front of the palace when inhabited. This piece of water may have been further deepened by excavating from it the earth necessary to raise the mound on which the palace stood.

The mound in this instance was a square of about 650 ft. each way, raised about 30 ft. above the level of the plain, and protected on every side by a supporting wall cased with stone of very beautiful masonry. Behind this, and inside the city, was a lower mound, about 300 ft. in width, and 1300 or 1400 ft. in length, on which were situated the great portals of the palace, and the residences of the guards and inferior officers; and beyond even this, on the plain of the city, a set of inter portals are found, from which the great winged bulls now in the British Museum were taken.



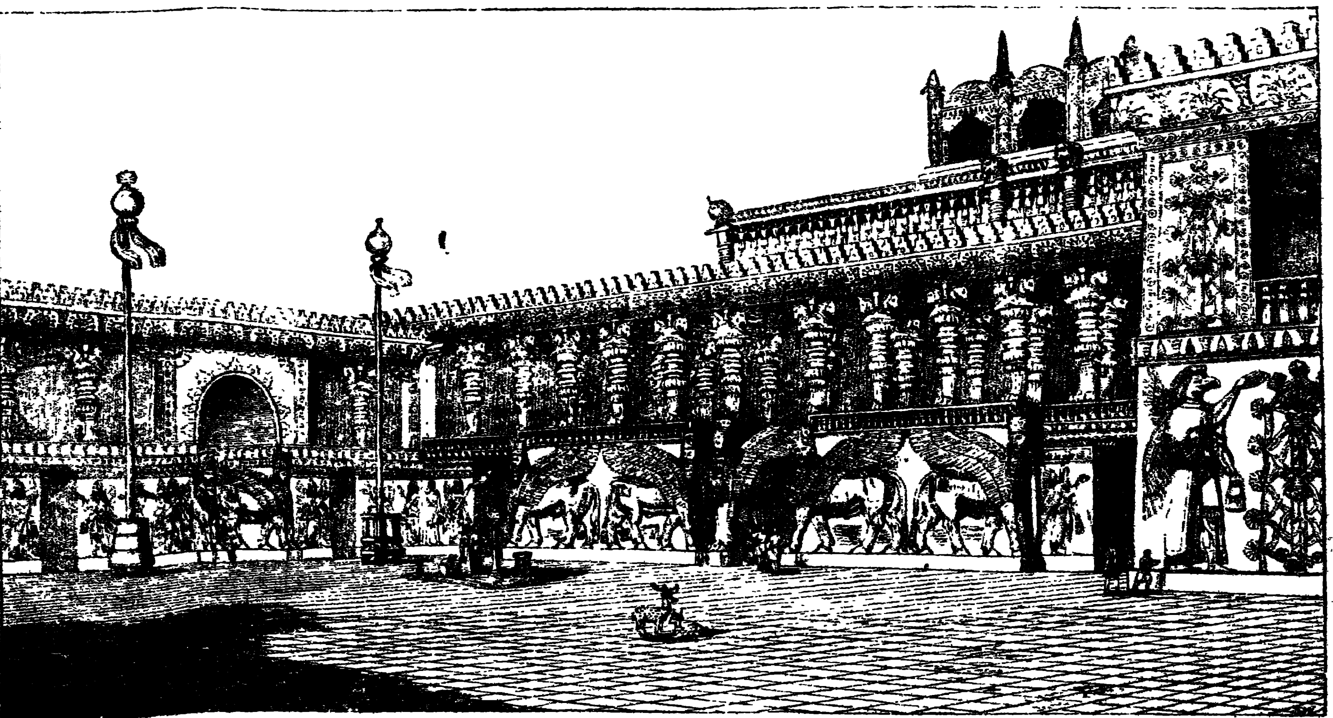
Terrace Wall at Khorsabad.

Passing these portals, a flight of steps seems to have led up to the great "outer court," on the south side of which was a magnificent set of portals leading into what was probably the Hareem court or private apartments of the palace. The public entrance appears to have been through a narrow arched passage between the two courts, x in plan, which led to the principal court of the palace. From its position alone

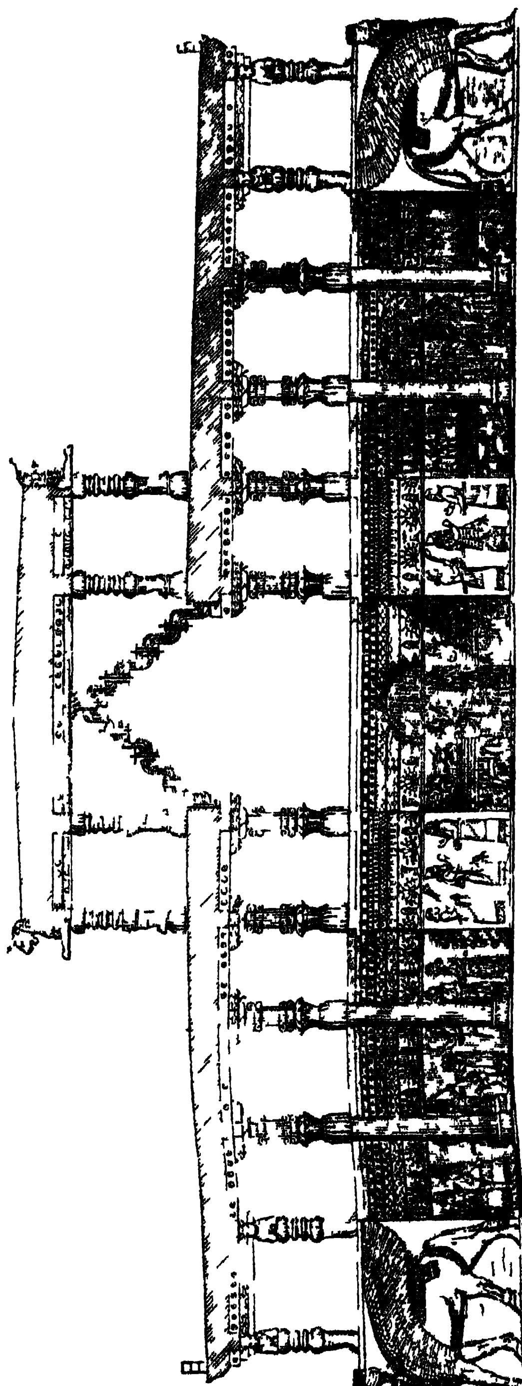
we would be justified in assuming that this passage was vaulted; but the proof that it was so, and that the other apartments of the palace were not, arises from the fact that in it alone the sculptures show no trace of being injured by fire; in every other room the marks of fire being too visible, and charred wood is found on every floor.

58 Plan of the Palace of Sargon Khorsabad. Scale 100 ft. to 1 in.

On two sides the principal or palace court was open to the country; the third was pierced with the entrance just described, the fourth was adorned with a splendid triple entrance leading to the principal suite of apartments of the palace. These consist of three great rooms (II. V. and VIII., woodcuts Nos. 58 and 61) placed side by side, the outer ones 116 ft. in length, and respectively 33 ft. and 29 ft. 8 in. in width, the central one being both shorter and narrower. At right angles to them is a fourth (No. IV.), overlooking the country, and within these, on the other hand, are two narrow apartments on the side of the Hareem court. A line of openings leads through the three principal



59. Restoration of Northern A gle of Palace Court, Khorsabad. From a Drawing by the Author.

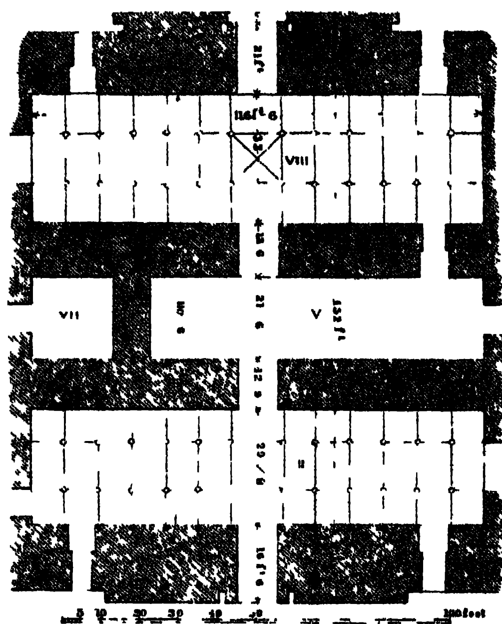


Is tr-d Section f principal Rooms at Khorsabad. 152 fe

69

rooms, fronting which is situated one of the few buildings yet discovered in Assyria that can with any certainty be called a temple. It stands in a fourth court, one side of which is open to the country, the opposite side being occupied by several entrances, one of which leads direct into the Hareem court, the others into smaller rooms, whose plans and uses cannot be satisfactorily made out owing to their not being revêted with slabs.

All those parts hatched on this plan, whether external or internal, are revêted with sculptural slabs of alabaster, generally about 9 ft. in height, which, like those at Nimroud, either represent the wars or the peaceful amusements of king Sargon, commemorate his magnificence, or express his religious feelings.



61 Enlarged Plan of the three principal Rooms at Khorsabad Scale 50 ft. to 1 in

Above this the regular courses of the brickwork in the walls can even now be traced, generally to the height of 3 or 4 ft. more; but the size of the winged bulls in the portals, and other indications, prove that they must have been raised to a height of at least 16 or 18 ft. and the number of painted bricks and traces of colour around their bases show that they were adorned with paintings, generally in conventional patterns, but of great brilliancy.

Above this we are left somewhat to conjecture. The whole superstructure was of wood, and has evidently in most of the palaces been destroyed by fire. The indications still left, however—the enormous

thickness of the walls—the necessities of the climate—and, more than all, the existing remains at Persepolis, where much that was here of wood is there repeated in stone—enable us to reproduce the upper part of the palace with considerable confidence. This restoration is shown in the two large woodcuts here given, the first of which (No. 59) represents the external appearance of the Palace-court, the other (No. 60) a section of the three principal rooms of the palace, of which a plan is also given (woodcut No. 61).

It will be observed that the area covered by the walls is of nearly the same extent as that of the rooms themselves, so that the galleries formed in fact an upper storey to the palace; and thus, in the heat of the day, the thickness of the walls kept the inner apartments free from heat and glare, while in the evenings and mornings the galleries formed airy and light apartments, affording a view over the country, and open on every side to the breezes that at times blow so refreshingly over the plains. It will also be observed that by this arrangement the direct rays of the sun could never penetrate into the halls themselves, and that rain, or even damp, could easily be excluded by means of curtains or screens.

On the lower terrace another suite of apartments has been since excavated by M. Place, who succeeded M. Botta as French Consul at Mosul. These differ in many respects from anything hitherto discovered in Assyria. The walls are neither revêted with slabs, nor are pictures painted on the plaster: but they are ornamented by a series of alternate reedings, separated by pilasters with square sunk panels: the former looking like the stems of trees jammed closely together—the latter like deep coffers of squared timbers.

The details of these excavations have not yet been published, but the same mode of decoration has just been described as found at Wurka (woodcut No. 52) in Southern Babylonia, at the Birs Nimroud (woodcut No. 46), and other places, and offers a new style which will no doubt be further developed by future excavations. This mode of decoration at Khorsabad covers not only the walls of the rooms internally, but is repeated on the exterior on a larger scale. There are other peculiarities in the form and arrangement of these apartments, which will open a new view of Assyrian art when they are given to the public.

From the above description it will be observed that in every case the principal part, the great mass of the palace, was the terrace on which it stood, which was raised by artificial means to a height of 30 ft. and more, and, as shown in the illustration (woodcut No. 57), carefully revêted with stone. On this stood the palace, consisting principally of one great block of private apartments situated around an inner square court. From this central mass two or three suites of apartments pro-

jected as wings, so arranged as to be open to the air on three sides, and to give great variety to the outline of the palace as seen from below, and great play of light and shade in every aspect under which the building could be surveyed. So far also as we can judge, the whole arrangements were admirably adapted to the climate, and the ornaments not only elegant in themselves, but singularly expressive and appropriate to the situations in which they are found.

Another most important discovery of M. Place is that of the gates of the city. These were apparently always constructed in pairs—one for the use of foot-passengers, the other for wheeled carriages as shown by the marks of wheels worn into the pavement in the one case, while it is perfectly smooth in the other.[1]

Those appropriated to carriages had plain jambs rising perpendicularly 12 or 15 ft. These supported a semicircular arch, adorned on its face with an archivolt of great beauty, formed of blue enamelled bricks, with a pattern of figures and stars of a warm yellow colour, relieved upon it.

[1] From the discovery of the arch, M Place jumped instantly to the conclusion that because the Assyrians could construct an arch 13 feet span with kiln-burnt bricks for a city gate, therefore they vaulted all the rooms of their palaces with *sun*-dried bricks, though some of these apartments were upwards of 40 feet in width!

It would have been quite as logical to reason that because all the gates of all the walled cities in Europe are arched, therefore all the rooms of the houses inside are arched also; and far more logical to reason that, because we can construct arches 100 or 150 feet span for our bridges, we should construct equally wide vaults for our rooms. We do not, however; nor did the Assyrians.

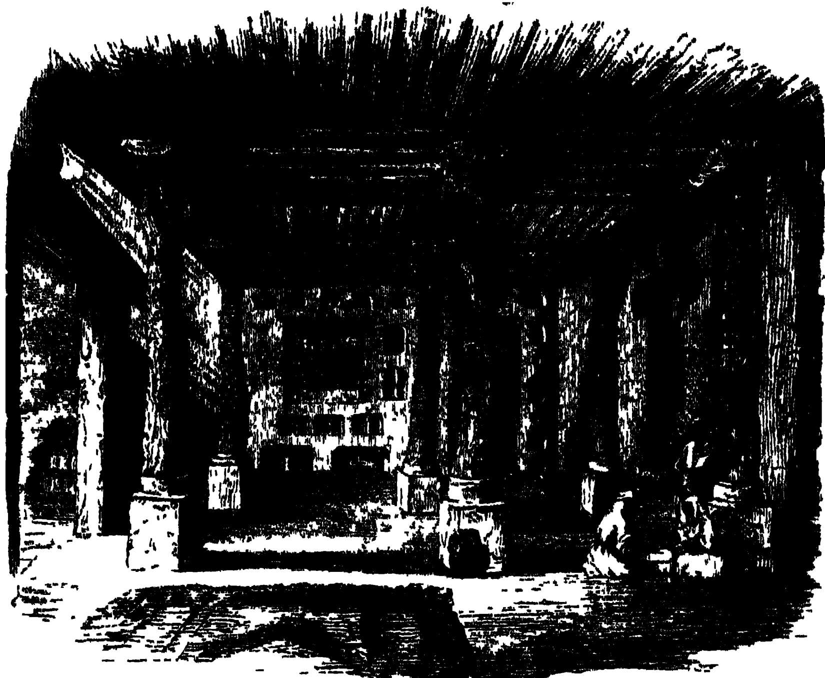
In the first place, a mud-brick vault 40 feet in span would crush with its own weight; and if employed in such rooms, for instance, as v., vi., and vii. (woodcut No. 58), they must have been in absolute darkness. The truth of the matter is that I foresaw and announced M. Place's discovery* long before he went to Khorsabad. What he has done since does not induce me to alter any feature in the restoration I then proposed.

The Rev. Geo. Rawlinson's proposal to cover the halls with flat roofs of timber, without any supports, is equally untenable.† If he had asked any practical builder what extent he would roof in this manner without any framing, and with no other protection above than a heavy flooring of mud, he would probably have found 20 feet more than most men would like to undertake, and some of the halls require roofs 42 and 43 feet in span. In India we cannot roof spans beyond 25 or 26 feet, though we have saul and teak timber: at best the Assyrians had cedar. There also we have perfectly burnt tiles and exquisite chunam; neither of which the Assyrians possessed, or at least used for this purpose, or their remains would have been found on the floors. If Mr. Rawlinson will show the Indians how to accomplish 40 feet with even these perfect materials, he would be the greatest architectural benefactor they have seen for a very long time.

It may, however, be asked, If this is so clear as here assumed, why should men put aside a reasonable, feasible, and beautiful mode of roofing, to propose impossible arches, and still less feasible flats? The answer seems easy and obvious, but too controversial and personal to be entered upon here.

* 'Palaces of Nineveh and Persepolis Restored,' p. 259.

† 'Ancient Monarchies,' vol. i. p. 385.



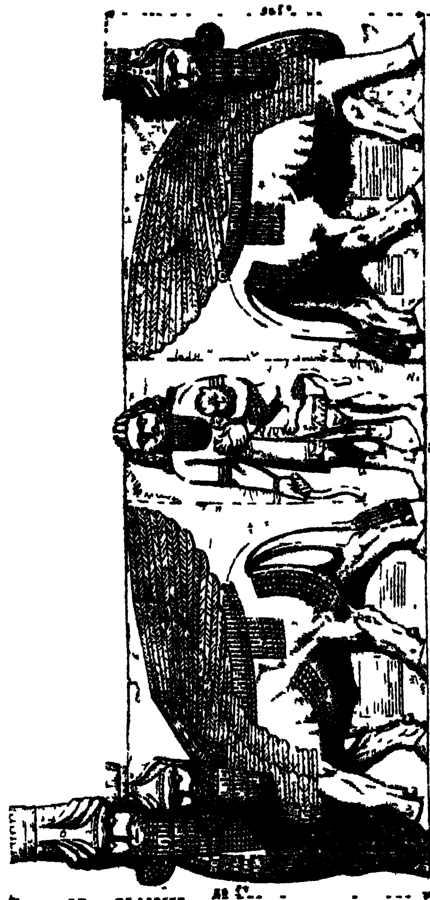
62 Interior of a Yezidi House at Bukra, in the Sinjar.

The gateways for foot-passengers were nearly of the same dimensions, about 12 or 13 ft. broad, but they were ornamented by winged bulls with human heads, between which stood giants strangling lions. In this case the arch sprang directly from the backs of the bulls, and was ornamented by an archivolt similar to that over the carriage entrances.

Other arches have been found in these Assyrian excavations, but none of such extent as these, and none which show more completely how the Assyrians in the time of Sargon understood not only the construction of the arch, but also its use as a decorative architectural feature.

There must always be many points, even in royal residences, which would be more easily understood if we knew the domestic manners and usages prevalent among the common people of the same era and country. This knowledge we actually can supply, in the present case to a great extent, from modern Eastern residences. Such a mode of illustration in the West would be out of the question; but in the East, manners and customs, processes of manufacture, and forms of building have existed unchanged from the earliest times to the present day. This immutability is the greatest charm of the East, and frequently enables us to understand what in our own land would have utterly

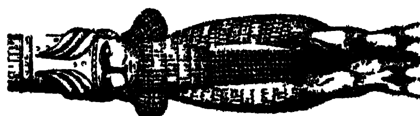
faded away and been obliterated. In the Yezidi House, for instance, borrowed from Mr. Layard's work, we see an exact reproduction, in every essential respect, of the style of building in the days of Sennacherib. Here we have the wooden pillars with bracket capitals, supporting a mass of timber intended to be covered with a thickness of earth sufficient to prevent the rain or heat from penetrating to the dwelling. There is no reason to doubt that the houses of the humbler classes were in former times similar to that here represented; and this very form amplified into a palace, and the walls and pillars ornamented and carved, would exactly correspond with the principal features of the palace of the great Assyrian king.



Existing Remains of Propylaea at Khorsabad

Palace of Sennacherib, Koyunjik.

Having said so much of Khorsabad, it will not be necessary to say much about the palace at Koyunjik, built by Sennacherib, the son of the Khorsabad king.



As the great metropolitan palace of Nineveh, it was of course of far greater extent and far more magnificent than the suburban palace of his father. The mound itself on which it stands is about 1½ mile in circumference

(7800 ft.); and, as the whole was raised artificially to the height of not less than 30 ft., it is in itself a work of no mean magnitude.

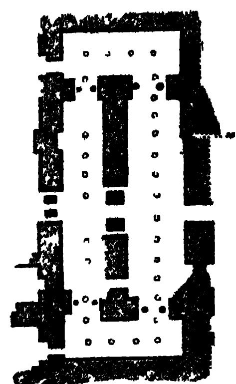
The principal palace stood at the south-western angle of this mound, and as far as the excavation has been carried seems to have formed a square of about 600 ft. each way—double the lineal dimensions of that at Nimroud. Its general arrangements were very similar to those at Khorsabad. It enclosed within itself two or three great internal courts, surrounded with sixty or seventy apartments, some of great extent. The principal façade, facing the east, far surpassed any of those of Khorsabad, both in size and magnificence, being adorned by ten winged bulls of the largest dimensions, with a giant between each of the two principal external ones, in the manner shown in the annexed woodcut (No. 63), besides smaller sculptures—the whole extending to a length of not less than 350 ft. Inside this great portal was a hall, 180 ft. in length by 42 in width, with a recess at each end, through which access was obtained to two court-yards, one on the right and one on the left; and beyond these to the other and apparently the more private apartments of the palace, which overlooked the country and the river Tigris, flowing to the westward of the palace—the principal entrance, as at Khorsabad, being from the city.

It is impossible, of course, to say how much further the palace extended, though it is probable that nearly all the apartments which were revêted with sculptures have been laid open; but what has been excavated occupies so small a portion of the mound that it is impossible to be unimpressed with the conviction that it forms but a very small fraction of the imperial palace of Nineveh. Judging even from what has as yet been uncovered, it is, of all the buildings of antiquity, alone surpassed in magnitude by the great palace temple at Karnac; and, when we consider the vastness of the mound on which it was raised, and the richness of the ornaments with which it was adorned, a doubt arises whether it was not as great, or at least as expensive, a work as the great palace-temple of Thebes. The latter, however, was built with far higher motives, and designed to last through ages, while the palace at Nineveh was built only to gratify the barbaric pride of a wealthy and sensual monarch, and perished with the ephemeral dynasty to which he belonged.

Palace of Esarhaddon

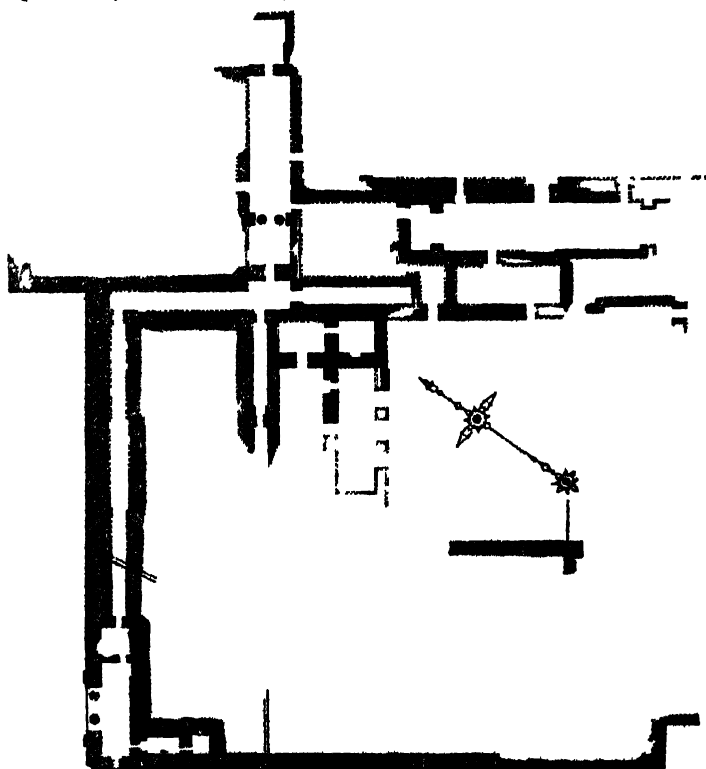
Another [illegible] palace, of which considerable remains still exist,
is [illegible] commonly known as the South-West Palace at
[illegible] others, this too has been destroyed by fire, and
[illegible] mains sufficiently entire to be described is the
[illegible] hall. Its general dimensions are 165 ft. in length
[illegible] d it consequently is the largest hall yet found in

Assyria. The architects, however, either from constructive necessities or for purposes of state, divided it down the centre by a wall supporting dwarf columns, forming a central gallery, to which access was had by bridge galleries at both ends, a mode of arrangement capable of great variety and picturesqueness of effect, and of which there is little doubt that the builders availed themselves to the fullest extent. This led into a court yard of considerable dimensions, surrounded by apartments, but they are all too much destroyed by fire to be intelligible.



64 Hall of South-West Palace. Scale 100 ft. to 1 inch.

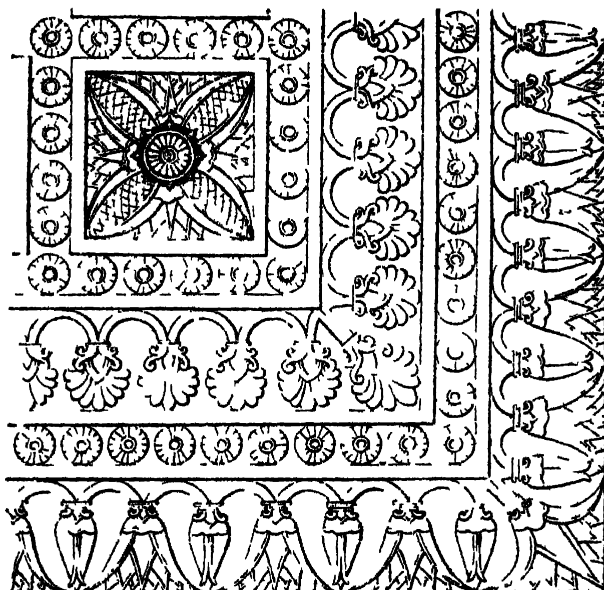
Another great palace, built, as appears from the inscriptions, by a son of Esarhaddon, has been discovered nearly in the centre of the mound at Koyunjik. Its terrace-wall has been explored for nearly 300 ft. in two directions from the angle near which the principal entrance is placed. This is on a level 20 ft. lower than the palace itself, which is reached by an inclined passage nearly 200 ft. in length, adorned with sculpture on both sides.



65 Central Palace, Koyunjik. Scale 100 feet to 1 inch.

The palace itself, as far as its exploration has been carried, appears similar in its arrangements to those already described; but the sculptures with which it is adorned are more minute and delicate, and show a more perfect imitation of nature, than the earlier examples, though inferior to them in grandeur of conception and breadth of design.

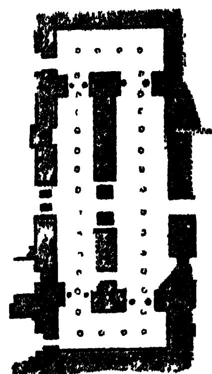
The architectural details also display a degree of elegance and an amount of elaborate finish not usually found in the earlier examples, as is well illustrated by the woodcut No. 66, representing one of the pavement slabs of the palace. It is of the same design, and similarly ornamented, but the finish is better, and the execution more elaborate, than in any of the more ancient examples we are acquainted with.



66 Pavement Slab from the Central Palace, Koyunjik.

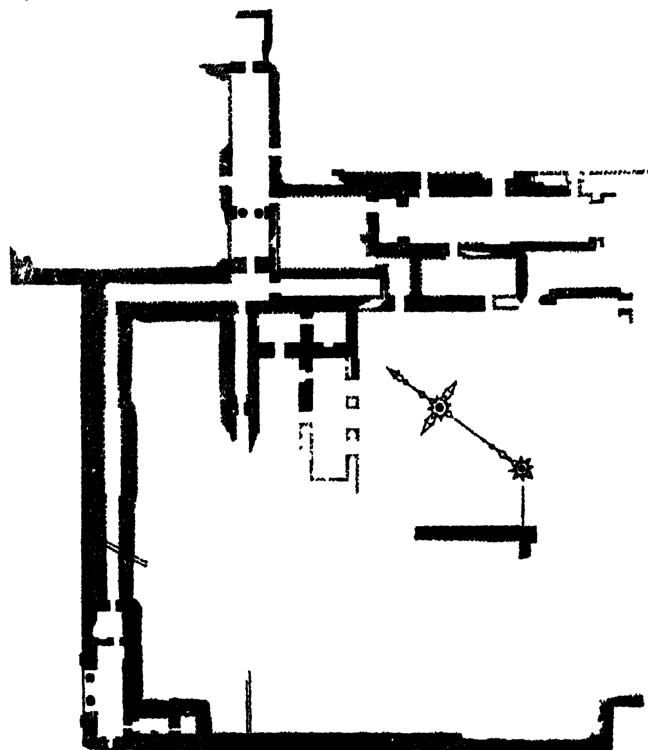
Besides these, there were on the mound at Nimroud a central palace built by Tiglath-Pileser, and one at the south-eastern angle of the mound, built by a grandson of Esarhaddon, but both are too much ruined for the tracing of either their form or extent to be feasible. Around the great Pyramid, at the north-west angle of the mound, were buildings more resembling temples than any others on it—all the sculptures upon them pointing apparently to devotional purposes, though in form they differed but little from the palaces. At the same time there is certainly nothing in them to indicate that the mound at the base of which they were situated was appropriated to the dead, or to funereal purposes. Between the north-west and south-west palaces

Assyria. The architects, however, either from constructive necessities or for purposes of state, divided it down the centre by a wall supporting dwarf columns, forming a central gallery, to which access was had by bridge galleries at both ends, a mode of arrangement capable of great variety and picturesqueness of effect, and of which there is little doubt that the builders availed themselves to the fullest extent This led into a court yard of considerable dimensions, surrounded by apartments, but they are all too much destroyed by fire to be intelligible.



6?. Hall of South-West Palace. Scale 100 ft. to 1 inch

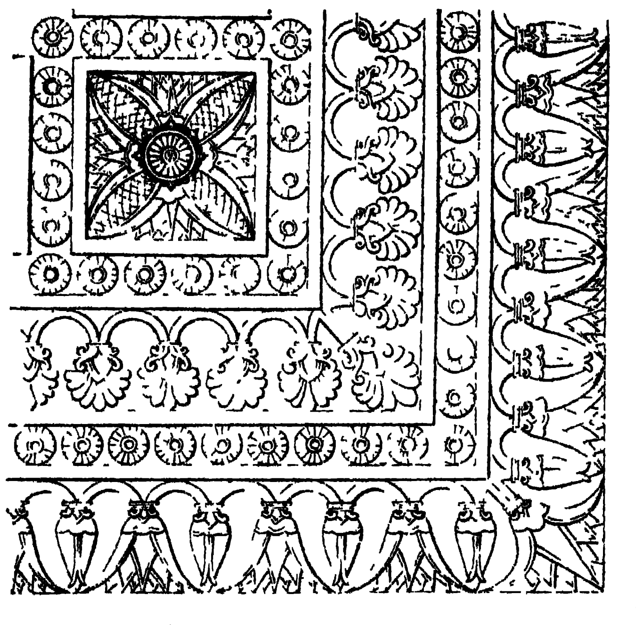
Another great palace, built, as appears from the inscriptions, by a son of Esarhaddon, has been discovered nearly in the centre of the mound at Koyunjik. Its terrace-wall has been explored for nearly 300 ft. in two directions from the angle near which the principal entrance is placed. This is on a level 20 ft. lower than the palace itself, which is reached by an inclined passage nearly 200 ft. in length, adorned with sculpture on both sides.



Central Palace, Koyunjik. Scale 100 feet to 1 inch.

The palace itself, as far as its exploration has been carried, appears similar in its arrangements to those already described; but the sculptures with which it is adorned are more minute and delicate, and show a more perfect imitation of nature, than the earlier examples, though inferior to them in grandeur of conception and breadth of design.

The architectural details also display a degree of elegance and an amount of elaborate finish not usually found in the earlier examples, as is well illustrated by the woodcut No. 66, representing one of the pavement slabs of the palace. It is of the same design, and similarly ornamented, but the finish is better, and the execution more elaborate, than in any of the more ancient examples we are acquainted with.



66 Pavement Slab from the Central Palace, Koyunjik.

Besides these, there were on the mound at Nimroud a central palace built by Tiglath-Pileser, and one at the south-eastern angle of the mound, built by a grandson of Esarhaddon, but both are too much ruined for the tracing of either their form or extent to be feasible. Around the great Pyramid, at the north-west angle of the mound, were buildings more resembling temples than any others on it – all the sculptures upon them pointing apparently to devotional purposes, though in form they differed but little from the palaces. At the same time there is certainly nothing in them to indicate that the mound at the base of which they were situated was appropriated to the dead, or to funereal purposes. Between the north-west and south-west palaces

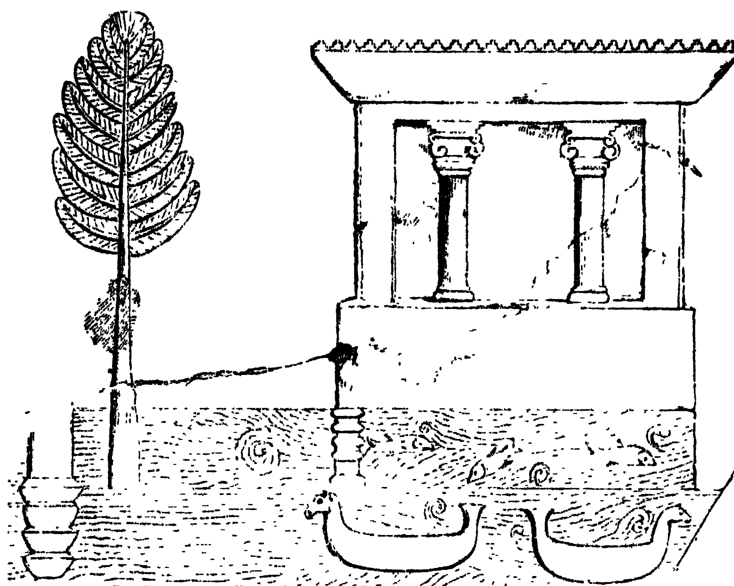
there was also raised a terrace higher than the rest, on which were situated some chambers the use of which it is not easy to determine.

Notwithstanding the impossibility that now exists of making out all the details of the buildings situated on the great mounds of Nimroud and Koyunjik, it is evident that these great groups of buildings must have ranked among the most splendid monuments of antiquity, surrounded as they were by stone-faced terraces, and approached on every side by noble flights of stairs. When all the palaces with their towers and temples were seen gay with colour, and crowded with all the state and splendour of an eastern monarch, they must have formed a scene of such dazzling magnificence that one can easily comprehend how the inhabitants of the little cities of Greece or Judea were betrayed into such extravagant hyperbole when speaking of the size and splendour of the great cities of Assyria.

The worst feature of all this splendour was its ephemeral character – though perhaps it is owing to this very fact that we now know so much about it –for, like the reed that bends to the storm and recovers its elasticity, while the oak is snapped by its violence, these relics of a past age have retained to some extent their pristine beauty. Had these buildings been constructed like those of the Egyptians, their remains would probably have been applied to other purposes long ago; but having been overwhelmed so early and forgotten, they have been preserved to our day; nor is it difficult to see how this has occurred. The pillars that supported the roof being of wood, probably of cedar, and the beams on the under side of the roof being of the same material, nothing was easier than to set fire to them. The fall of the roofs, which were probably composed, as at the present day, of 5 or 6 ft. of earth, and which is requisite to keep out heat as well as wet, would alone suffice to bury the building up to the height of the sculptures. The gradual crumbling of the thick walls consequent on their unprotected exposure to the atmosphere would add 3 or 4 ft. to this: so that it is hardly too much to suppose that green grass might have been growing over the buried palaces of Nineveh before two or three years had elapsed from the time of their destruction and desertion. When once this had taken place, the mounds afforded far too tempting positions not to be speedily occupied by the villages of the natives: and a few centuries of mud-hut building would complete the process of entombment so completely as to protect the hidden remains perfectly for the centuries during which they have lain buried. These have now been recovered to such an extent as enables us to restore their form almost as certainly as we can those of the temples of Greece or Rome, or of any of the great nations of antiquity.

It is by no means improbable that at some future period we may be able to restore much that is now unintelligible, from the representations of buildings on the sculptures, and to complete our account of their style

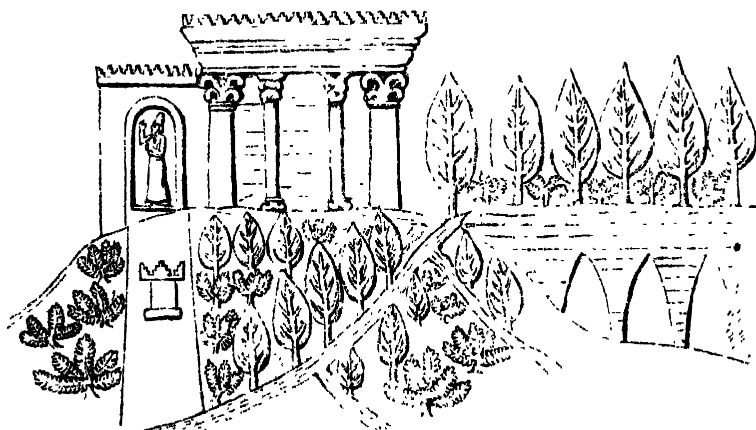
of architecture from illustrations drawn by the Assyrians themselves. One or two of these have already been published. The annexed woodcut, for instance (No. 67), of a bas-relief representing a little fishing-



67. Pavilion from the sculptures at Khorsabad.

pavilion on the water's edge, exhibits in a rude manner all the parts of an Assyrian order with its entablature, and the capital only requires to be slightly elongated to make it similar to those found at Persepolis.

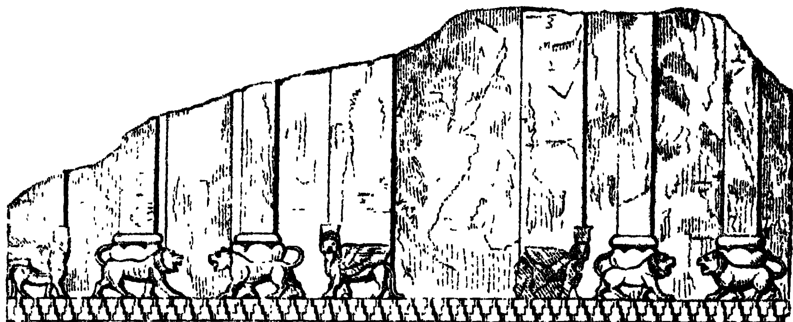
Another from the Central Palace, Koyunjik, repeats the same ar-



Assyrian Temple (North Palace, Koyunjik). From Rawlinson.

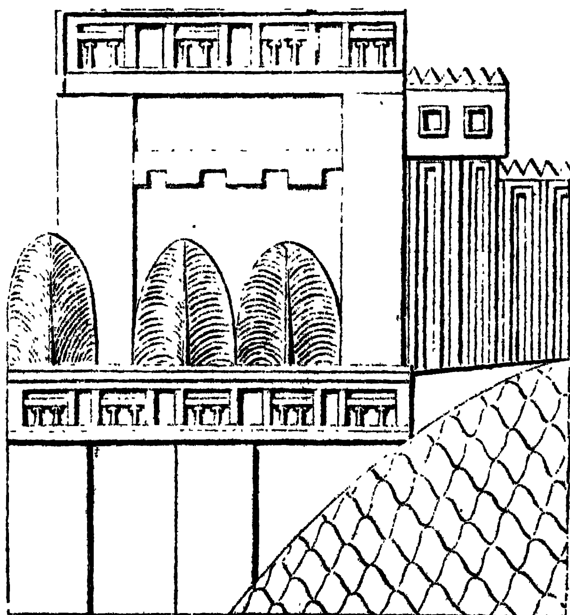
rangement, with pillars which must be considered as early examples of the Corinthian order, and, if we may trust the drawing, it likewise represents an aqueduct with horizontally constructed arches of pointed form.

A third representation from the same palace seems intended to portray a complete palace façade, with its winged bulls in the entrance



69. Bas-relief representing façade of Assyrian Palace. From British Museum.

and its colossal lions on the front. Above these animals, but not apparently meant to be represented as resting on them, are pillars in antis, as in the two previous illustrations.[1] Unfortunately the cornice



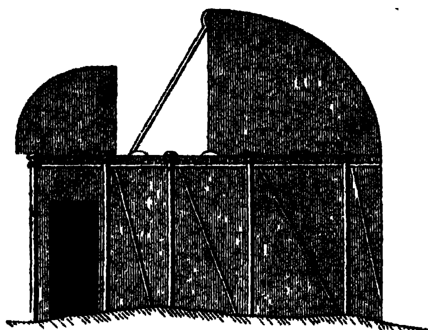
70. Exterior of a Palace, from a Bas-relief at Koyunjik.

[1] This façade, as I read it, is identical with the one I erected at the Crystal Palace as a representation of an Assyrian façade, long before this slab was exhumed.

is broken away, and the whole is more carelessly executed than is usual in these sculptures.

Another curious representation (woodcut No. 70) is that of a palace of two storeys, from a bas-relief at Koyunjik, showing a range of openings under the roof in both storeys, each opening being divided into three parts by two Ionic columns between square piers, and are probably meant to represent such an arrangement as that shown in woodcuts Nos. 67 and 68. On the right the upper storey is a correct representation of the panelled style of ornamentation recently discovered at Khorsabad and elsewhere, and which we know from recent discoveries to have been so favourite a mode of decorating walls in that age.

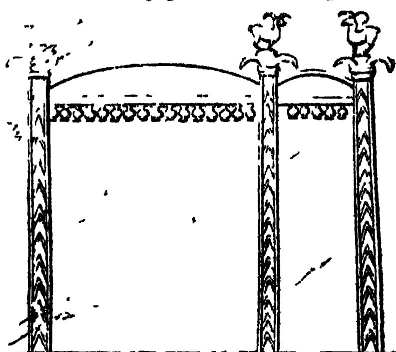
The most remarkable fact, however, that we gather from all these illustrations is that the favourite arrangement was a group of pillars, "distyle in antis," as it is technically termed, viz., two circular pillars between two square piers. It is frequently found elsewhere in the façade of tombs, but here it seems to have been repeated over and over again to make up a complete design. For a temple such an arrangement would have been inadmissible; for a palace it seems singularly appropriate and elegant.



King's Tent. From Bas-relief, British Museum.

Further comparisons will no doubt do much to complete the subject; and when the names written over these bas reliefs are definitively deciphered, we may find that we really possess contemporary representations of Jerusalem, of Samaria, of Susa, and other cities familiar to us both from ancient and from modern history.

We have no representation of the dwellings of private individuals so complete as to enable us to understand them, but there are several of Royal camps which are interesting. Among the most curious of these are the representations of the tents of the king and his nobles. One of these is shown in woodcut No. 71, though how it was constructed is by no means clear. It seems to have been open in the centre to the air, but covered at

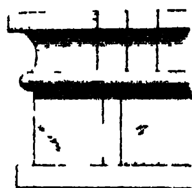


72 Horse Tent (Nimroud)

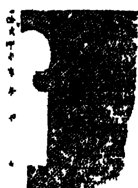
either end by a sort of hood so arranged as to catch the passing breeze, and afford protection from rain at the same time. The annexed woodcut (No. 72) representing the front and one side of the Royal horse-tent gives a good idea of the luxury and elegance that was carried into the detail even of subordinate structures.

Temples and Tombs.

Except the Chaldean-formed temples, which have been described in the previous chapter, there are no religious edifices sufficiently complete to enable us to form a distinct idea of what the architectural arrangements of these temples were. As belonging to a Semitic people we should expect them to be few and insignificant.



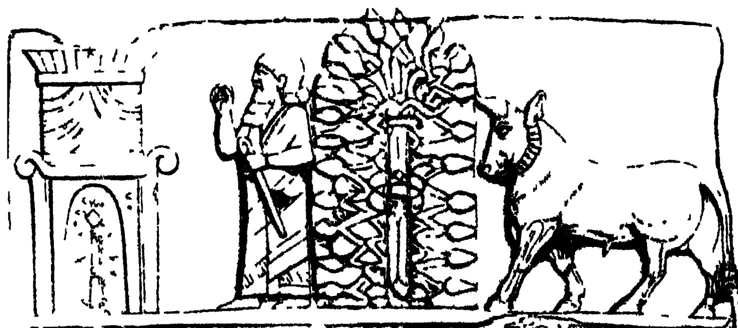
73. Elevation of Stylobate of Temple.



74. Section of Stylobate of Temple.

So little remains of the temple at Khorsabad, that it is difficult to say what its original form may have been; the terrace, however, which supported it is interesting, as it shows almost the only instance of a perfect Assyrian moulding or cornice, betraying a similarity to the forms of Egyptian architecture which we do not find elsewhere. The curve, however, is not exactly that of an Egyptian cornice, being continued beyond the vertical tangent; but this may have arisen from the terrace being only 6 ft in height, which placed the curve below the line of sight, and so required a different treatment from one placed so high above it as is usually the case in Egypt.

The annexed is perhaps the best sculptured representation that exists of what we might fancy an Assyrian temple to have been, and



Sacred Symbolic Tree of the Assyrians. From Lord Aberdeen's Black Stone.

the emblem so enshrined is probably the Asheerah, or grove, to the worship of which the Israelites at all times showed such a tendency

to relapse, and which is among the most frequent objects of adoration among the Assyrians.

As a Semitic people we should hardly expect to find any tombs among them, and indeed, unless the pyramid at the north-west angle of the Nimroud mound is the tomb of Sardanapalus, mentioned by the Greeks,[1] it is not clear that a single Assyrian sepulchre has yet been discovered. Those that crowd and choke the ruins of Warka and Mugheyr and other cities of Babylonia are the remains of a Turanian people who always respected their dead, and paid especial attention to the preservation of their bodies. The pyramid at Nimroud seems to have been explored with sufficient care to enable us to affirm that no stairs or inclined plane led to its summit, and without these it certainly was not one of those observatory temples before alluded to. Still it is so singular to have one monument, and one only, of its class, that it is difficult to form a satisfactory opinion on the subject.

It stands at the north-west angle of the mound, and measures 167 ft. each way; its base, 30 ft. in height, is composed of beautiful stone masonry, ornamented by buttresses and offsets, above which the wall was continued perpendicularly in brickwork. In the centre of the building, and on the level of the base or terrace, a long vaulted gallery or tunnel was discovered, but it contained no clue to the destination of the building.

The whole now rises to a height of about 120 ft. from the plain, and is composed of sun-dried bricks, with courses of kiln-burnt bricks between them, at certain intervals towards the summit, which render it probable that it originally was not a pyramid in the usual sense of the term, but a square tower, rising in three or four storeys, each less than the lower one, as in the traditional temple of Belus at Babylon, or like the summit of the obelisk represented in the woodcut (No. 76), which most probably is a monolithic reproduction of such a tomb-tower as this, rather than an obelisk like those of Egypt.

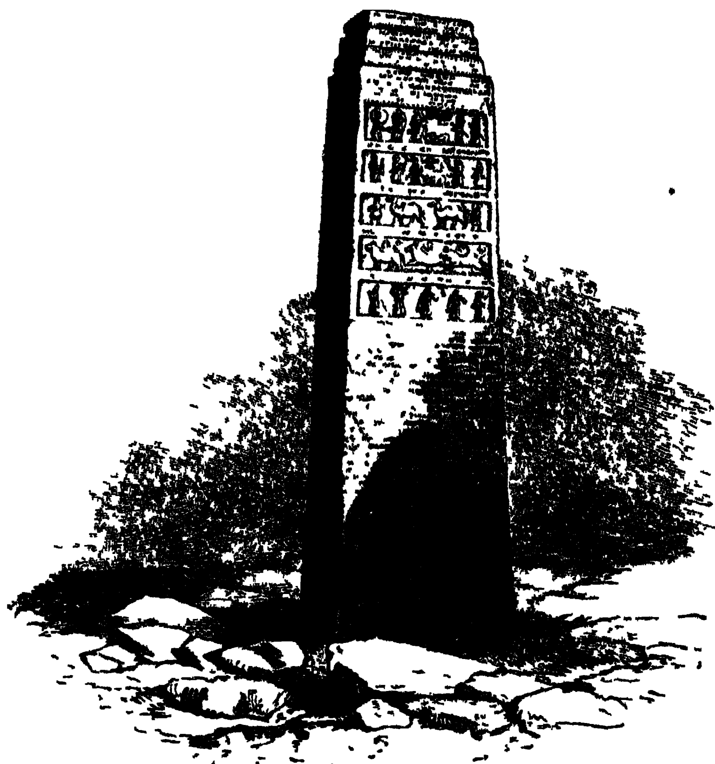
Other obelisks have since been discovered, some of which look even more like miniature models of structural buildings than this one does.

Till further information is obtained, it will hardly be possible to say much that is satisfactory with regard to either the tombs, temples, or minor antiquities of the Assyrian people. Their architecture was essentially Palatial- as that of the Greeks was Templar—and to that alone our remarks might almost be confined. Fortunately, however, sculpture was another art to which they were specially addicted, and to their passion for this we owe most of our knowledge of their manners and customs. To this art also we are indebted for our ability to restore many details of their palaces and buildings, which without its aid would have been altogether unintelligible.

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[1] See Rawlinson, 'Ancient Monarchies.' vol. i. p. 398.

Judged by the same rules of criticism which we apply to Classic or Mediæval art, the architecture of the Assyrians must, it is feared, rank very low But for gorgeous Barbaric splendour of effect it seems



76 Obelisk of Divanubara. From Layard's Nineveh

difficult to imagine anything that could well have been grander or more imposing than the palaces of Nineveh must have been when entire and filled with the state and magnificence of the monarchs of Assyria

CHAPTER IV.

PERSIA.

CHRONOLOGY.[1]

	DATES.		DATES.
Cyrus founds Pasargadæ	B.C. 560	Darius Nothus	B.C. 424
Cambyses' buildings at ditto .	525	Artaxerxes Mnemon, repairs buildings at Persepolis and Susa	405
Darius builds palace at Persepolis	521	Destruction of Persian empire by Alexander	331
Xerxes builds halls at Persepolis and Susa	485		
Artaxerxes Longimanus .	465		

There still remains a third chapter to write before the survey of the architecture of the central region of Asia is complete—before indeed a great deal which has just been assumed can become capable of proof. By a fortunate accident the Persians used stone where the Assyrians used only wood, and consequently many details of their architecture have come down to our day which would otherwise have passed away had the more perishable materials of their predecessors been made use of.

Whatever else the ancient world may owe to the learning of the Egyptians, it seems certain that they were the first to make use of stone as a constructive building-material. As before mentioned, the Egyptians used a stone proto-Doric pillar at least 1000 years before the Greeks, or the Etruscans, or any other ancient people we know of, dreamt of such a thing. The Babylonians and Assyrians never seem to have used stone constructively, except as the revêtment of a terrace wall; and it was not till after the conquest of Egypt by Cambyses, that we find any Asiatic nations using a pillar of stone in architecture, or doing more than building a wall, or heaping mass on mass of this material without any constructive contrivance. The Indians first learned this art from the Bactrian Greeks, and many civilized Asiatic nations still prefer wood for their palaces and temples as the Assyrians did, and only use stone as "a heap." It must have been difficult, however, for any intelligent people to visit the wonderful stone temples of Thebes and Memphis without being struck by their superior magnificence and durability; and we consequently find the Persians on their return, though reproducing their old forms, adopting the new material, which fortunately for them and for our history, was found in abundance in the neighbourhood of their capitals.

Even however on the most cursory inspection, it is easy to see how little the arts of the Assyrians were changed by their successors. The

winged lions and bulls that adorn the portals at Persepolis, are practically identical with those of Nineveh. The representation of the king on his throne with his attendants, are so similar, that but for the locality it would require considerable knowledge to discriminate between Senacherib and Xerxes. The long procession of tribute bearers—the symbolical animals slain by the king; the whole ornamentation in fact, is so slightly altered from what existed in Assyria, that we are startled to find how little change the new dynasty had introduced.

With respect to the architecture of the Persians, it appears at first sight to be otherwise; but on closer examination it seems that this even is due more to the material employed than to any alteration in form. Something may be due to the fact that the buildings we now find on the platform at Persepolis, may have been dedicated to a somewhat different purpose than were those of Nineveh; but even this is not quite clear. If the great square courts of the Ninevite palaces were roofed over, as Layard suggested—and as probably was the case—they would exactly represent the square halls of Persepolis. But as all the intermediate buildings of sun-dried brick have been washed off the bare rock by the winter rains of Persia, we can only speculate on what they might have been, without daring to lay too much stress on our convictions.

PERSEPOLIS.

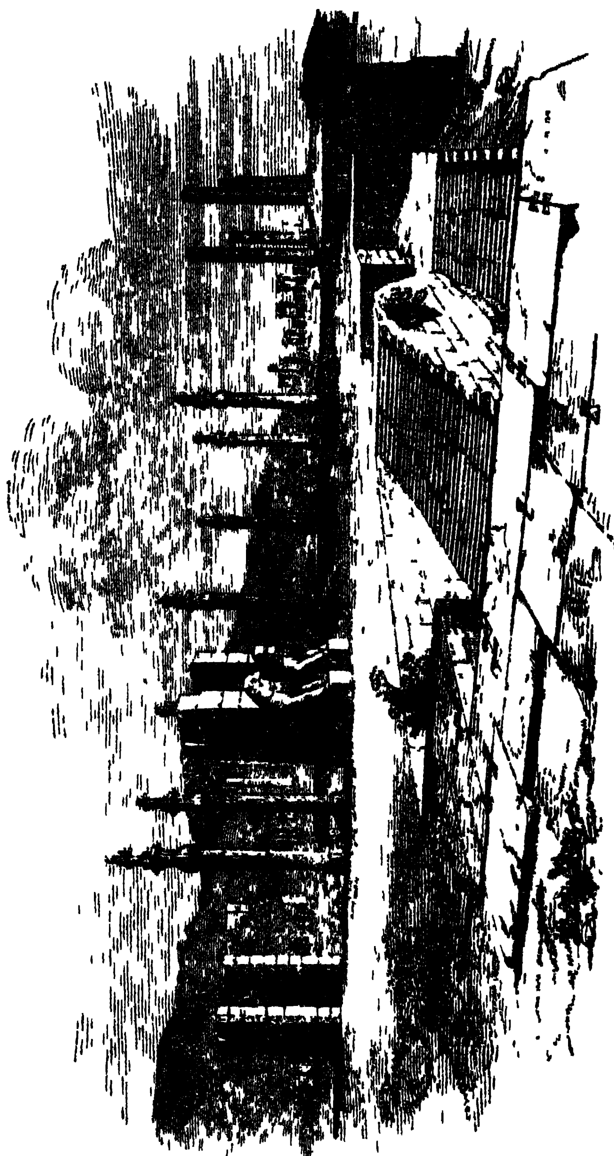
At Nineveh, as we have seen, all the pillars, the roofs, and the constructive parts of the building, which were of wood, have disappeared, and left nothing but the massive walls, which, falling, and being heaped the one on the other, have buried themselves and their ornaments till the present day. At Persepolis, on the contrary, the brick walls, being thinner and exposed on the bare surface of the naked rock, have been washed away by the storms and rains of 2000 years, leaving only the skeletons of the buildings. In the rocky country of Persia, however, the architect fortunately used stone, and we have thus at Persepolis, if the expression may be used, all the bones of the building, but without the flesh; and at Nineveh, the flesh, but without the bones that gave it form and substance.

The general appearance of the ruins, as they at present stand, will be seen from the woodcut (No. 77).[1] The principal mass in the foreground on the left is the Propylæa of Xerxes, and behind that and to the right stand the pillars of the Chehil Minar, or Great Hall of Xerxes. Between these are seen in the distance the remains of the smaller halls of Darius and Xerxes.

The most striking features in this view are the staircases that led from the plain to the platform, and from the lower level to that on which the great hall stood. Indeed, among these ruins, nothing is more

[1] The woodcuts in this chapter, except the restorations, are taken from Flandin and Coste's 'Perse Ancienne,' except where the contrary is mentioned.

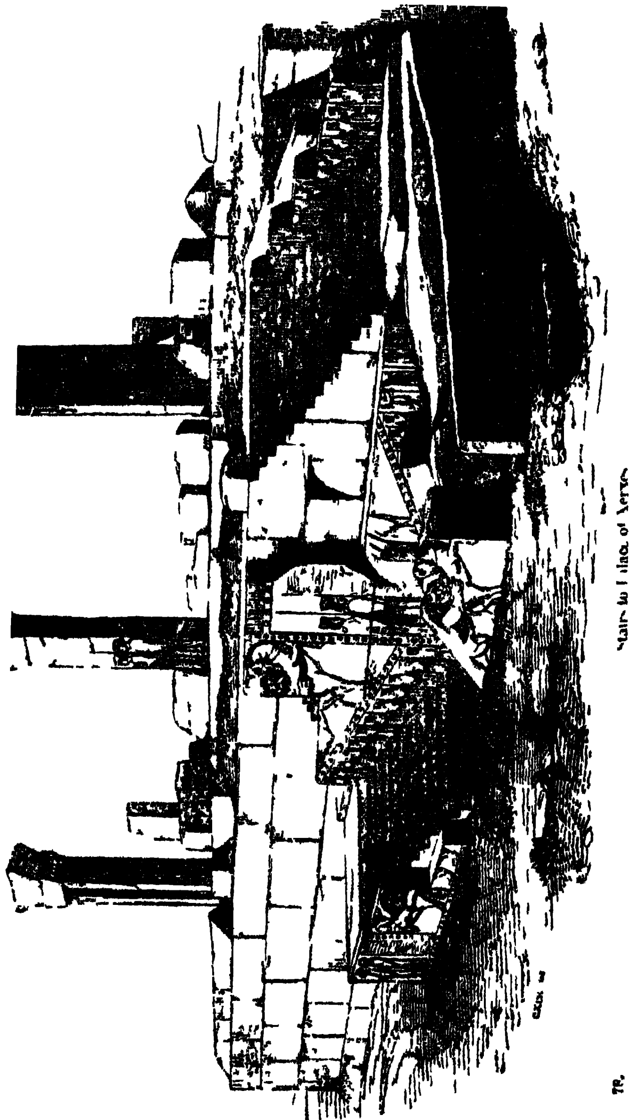
remarkable than these great flights of steps. The builders of those days were, so far as we know, the only people who really understood the value of this feature. The Egyptians seem wholly to have



77. View from top of Great Stairs at Persepolis.

neglected it, and the Greeks to have cared little about it. but it was not so at Nineveh, where, so far as we can understand from the indistinct traces left, the stairs must have been an important part of the design. But they were so situated that they were not buried when

the buildings were ruined, and consequently have been removed. At Jerusalem too we read that, when the Queen of Sheba saw "the ascent by which Solomon went up to the house of the Lord, there was no



78. Stairs to Palace of Xerxes.

more spirit in her." Indeed, in all the ancient temples and palaces of this district, more attention is paid to this feature than to almost any other, and, from their favourable situation on artificial terraces,

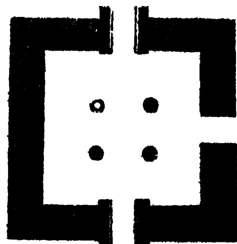
the builders were enabled to apply their stairs with far more effect than any others in ancient or in modern times.

The lower or great staircase at Persepolis is plain, and without any sculpture, but is built of the most massive Cyclopean masonry, and of great width and very easy acclivity. That in front of the great hall is ornamented with sculpture in three tiers, representing the people of the land bringing presents, and the subject nations tribute, to lay at the feet of the monarch, combined with mythological representations; the whole bearing a very considerable resemblance to the sculptures on the walls of the Assyrian palaces, though the position is different. The arrangement of these stairs, too, is peculiar, none of them being at right angles to the buildings they approach, but all being double, apparently to permit of processions passing the throne, situated in the porches at their summit, without interruption, and without altering the line of march.

One of these flights, leading to the platform of Xerxes' palace, is shown in the woodcut (No. 78). In arrangement it is like the stairs leading to the great terrace, but very much smaller, and is profusely adorned with sculpture.

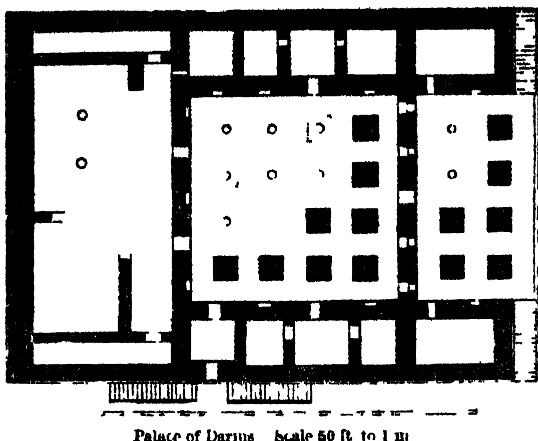
The principal apartment in all the buildings situated on the platform is a central square hall, the floor of which is studded with pillars placed equidistant the one from the other. The smallest have 4 pillars, the next 16, then 36, and one has 100 pillars on its floor; but to avoid inventing new names, we may call these respectively, distyle, tetrastyle, hexastyle, and decastyle halls, from their having 2, 4, 6, or 10 pillars on each face of the phalanx, and because that is the number of the pillars in their porticos when they have any.

The building at the head of the great stairs is a distyle hall, having 4 pillars supporting its roof. On each side of the first public entrance stands a human-headed winged bull, so nearly identical with those found in Assyrian palaces as to leave no doubt of their having the same origin. At the opposite entrance are two bulls without wings, but drawn with the same bold, massive proportions which distinguish all the sculptured animals in the palaces of Assyria and Persia. The other, or palace entrance is destroyed, the foundation only remaining; but this, with the foundations of the walls, leaves no room to doubt that the annexed woodcut (No. 79) is a true representation of its ground-plan. Nor can it be doubted that this is one of those buildings so frequently mentioned in the Bible as a "gate," not the door of a city or buildings, but a gate of justice, such as that where Mordecai sat at Susa—where Abraham bought his field—where Ruth's marriage was judged of—and, indeed, where public business was generally transacted.



79 Propylæa. Scale 100 ft. to 1 in.

There are three other distyle halls or gates on the platform. one to the westward of this, very much ruined; and one in the centre of the whole group, which seems to have had external porticos, and a third on the platform in front of the palace of Xerxes.



80 Palace of Darius Scale 50 ft. to 1 in

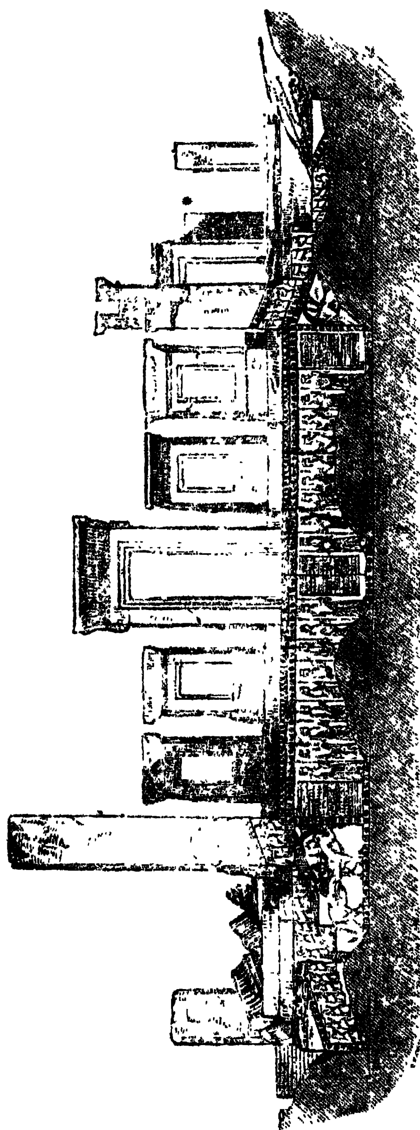
There are two tetrastyle halls, one of which, erected by Darius (woodcut No. 80), is the most interesting of the smaller buildings on the terrace. It is the only building that faces the south, and is approached by a flight of steps, represented with the whole façade of the palace as it now stands in the woodcut (No 81). These steps led to a tetrastyle porch, two ranges in depth, which opened into the central hall with its 16 columns, around which were arranged smaller rooms or cells, either for the occupation of the king, if it was a palace, or of the priests if a temple. In the western side a staircase and doorway were added, somewhat unsymmetrically, by Artaxerxes.

Those remains would hardly suffice to enable us to restore the external appearance of the palace, but fortunately the same king who built the palace for his use on this mound, repeated it in the rock as an "eternal dwelling" for himself after death. The tomb known as that of Darius at Naksh-i-Rustam (woodcut 82), is an exact reproduction, not only of the architectural features of the palace, but to the same scale, and in every respect so similar, that it seems impossible to doubt but that the one was intended as a literal copy of the other. Assuming it to be so, we learn what kind of cornice rested on the double bull capitals. And what is still more interesting, we obtain a representation of a prayer platform, which we have described elsewhere as a Talar,[1] but the meaning of which we should hardly know but for this representation.

The other tetrastyle hall is similar to this, but plainer and somewhat smaller.

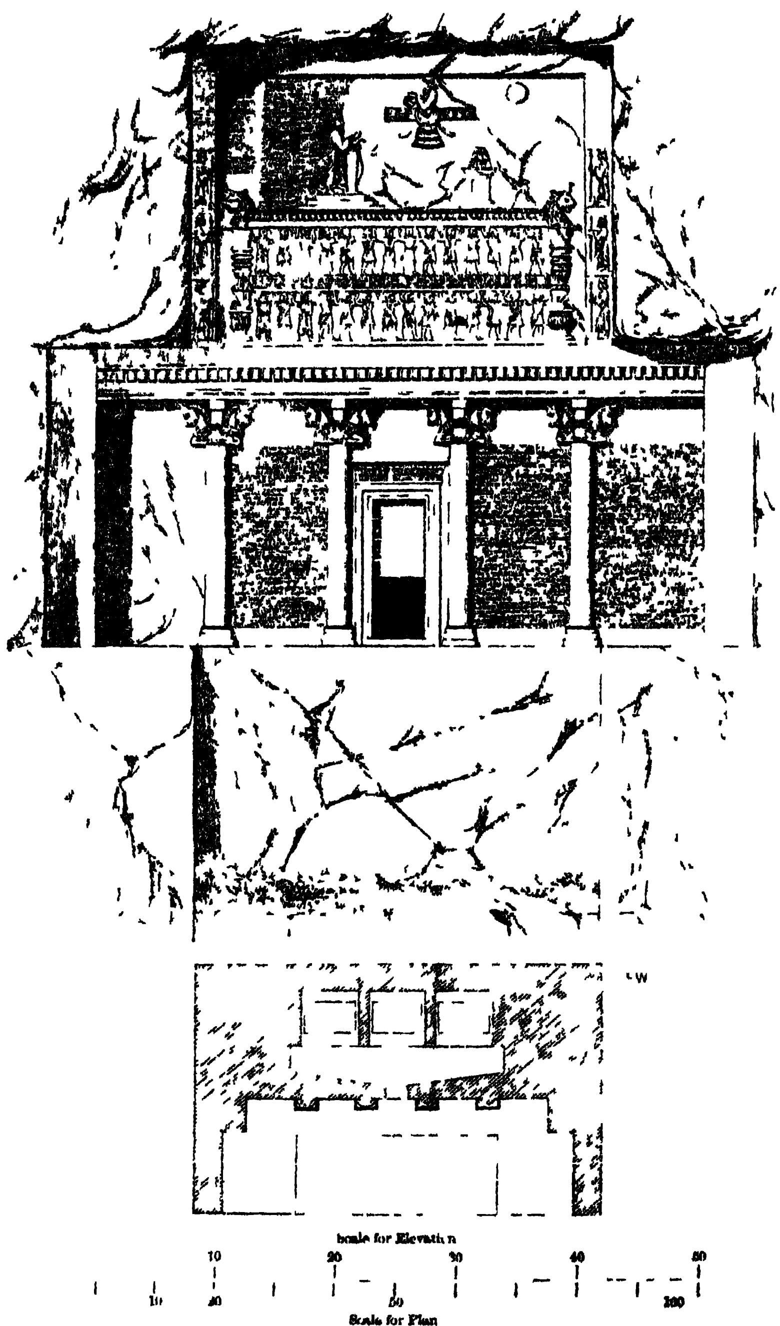
[1] 'Palaces of Nineveh and Persepolis Restored,' p. 126.

Turning from these to the hexastyle halls, the smallest but most perfect (woodcut No. 83) is that standing on the southern edge of the upper platform, the inscriptions on which certainly prove it to have been built by Xerxes.



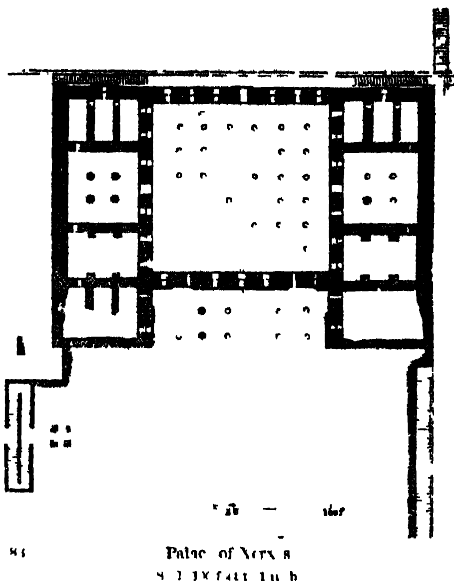
Façade of Palace of Darius at Persepolis.
Scale of 25 ft. to 1 inch.

The platform on which it stands is approached by two flights of steps,—that on the east being the one represented in the woodcut No. 78,—there are also indications of a tetrastyle hall or gate having existed



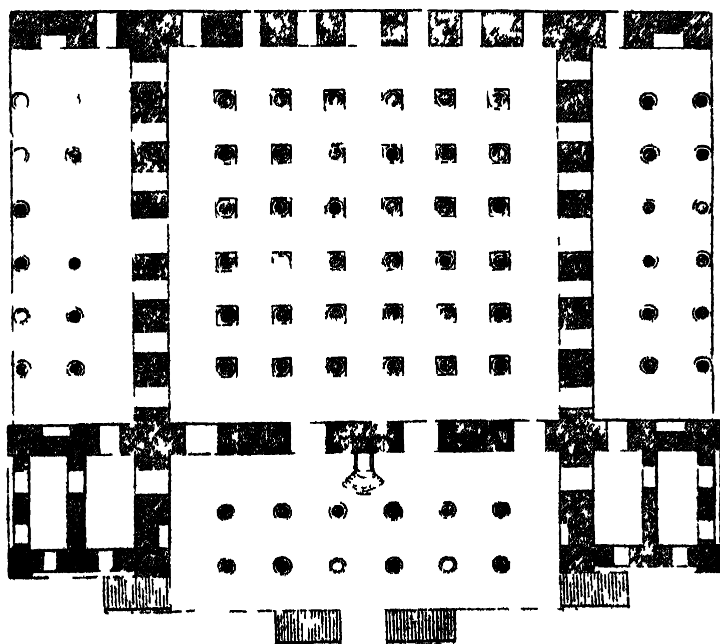
82 Tomb of Darius at Naksh-i-Rustam, representing the façade of his palace surmounted by a Talar

on its summit, while that to the west is much simpler. The hall itself had a portico of 12 columns, and on each side a range of smaller apartments, the two principal of which had their roofs supported by 4 pillars each.



84. Palace of Xerxes. Scale 100 feet to 1 inch.

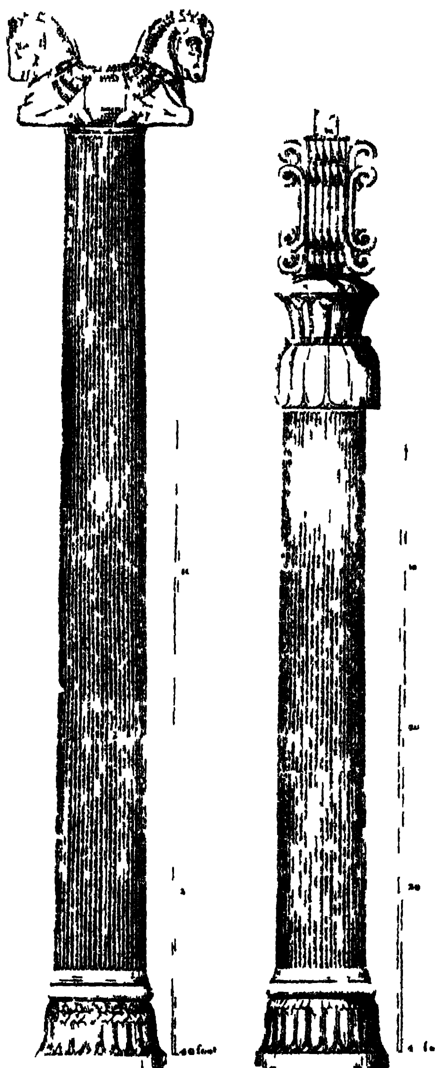
The great value of this building, however, is that it enables us to understand the arrangement of the great Hall of Xerxes—the Chehil Minar—the most splendid building of which any remains exist in this part of the world. From the annexed plan (woodcut No. 84) it will be seen that the arrangement of the whole central part is identical with that of the building just described, as the bases of all the 72 columns still exist in situ, as well as the jambs of the two principal doorways which are shaded darker in the plan. The side and rear walls only



Restored Plan of Great Hall of Xerxes at Persepolis. Scale 100 ft. to 1 in.

are restored from the preceding illustration. Instead of the two distyle halls on either side, this had hexastyle porticos of 12 pillars each, similar to that in front, the angles between which were in all probability filled up with rooms or buildings, as suggested in the plan.

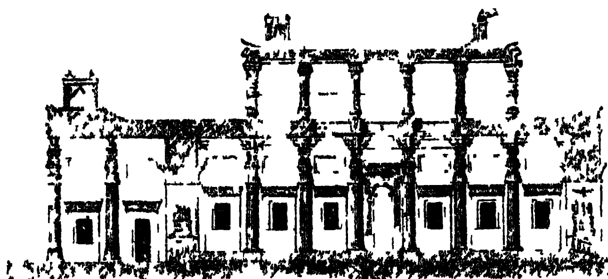
Two orders of pillars were employed to support the roof of this splendid building, one, represented in woodcut No. 85, with double bull-capitals, like those of the porch of Darius's palace. They are 67 ft. 4 in. in height from the floor to the back of the bull's neck, or 64 ft. to the under side of the beam that lay between the bulls. The other order, with the Ionic volutes (woodcut No. 86) was also that employed in the northern portico, and generally in the interior throughout this building, and is nearly identical, as far as the base and shaft are concerned except in the height of the latter. The capital however, differs widely, and is 16 ft. 6 in. in height making an order altogether 9 ft. 7 in. less than that used externally, the difference being made up by brackets of wood, which supported the beams of the roof, internally at least, though externally the double bull-capital probably surmounted these Ionic-like scrolls.



Pillar of Western Portico 86 Pillar of Northern Portico

There is no reason to doubt that these halls also had platforms or *talars* like the smaller halls, which would also serve to shelter any opening in the roof, though in the present instance it seems very doubtful if any such openings or skylights existed or were indeed required.

Thus arranged, the section of the buildings would be as shown in the woodcut (No. 87); and presuming this structure to have been sculptured and painted as richly as others of its age and class, which it no doubt was, it must have been not only one of the largest, but one of the most splendid buildings of antiquity. In plan it was a rectangle of about 300 ft. by 350, and consequently covered 105,000 square ft.; it was thus larger than the hypostyle hall at Karnac, or any of the largest temples of Greece or Rome. It is larger, too, than any mediæval cathedral except that of Milan, and although it has neither the stone roof of a cathedral, nor the massiveness of an Egyptian building, still its size and proportions, combined with the lightness of its architecture, and the beauty of its decorations, must have made it one of the most beautiful buildings ever erected, and both in design and proportion far surpassing those of Assyria, though possessing much of detail or ornament so similar as to be almost identical in style.



Restored Section of Hall of Xerxes. Scale 100 ft. to 1 in.

There is no octastyle hall at Persepolis, and only one decastyle. In this instance the hall itself measured about 225 ft. each way, and had 100 pillars on its floor; still it was low in proportion, devoid of lateral porticos, and consequently by no means so magnificent a building as the great hall of Xerxes. The portico in front was two ranges in depth and flanked by gigantic bulls; but as the whole height was barely 25 ft., it could not have been a remarkable or pleasing object. The sculptures on the jambs of the doorways are the most interesting part of this building; these represent the king on his throne, and various mythological subjects, on a more extensive scale than those similarly situated in the other buildings of the platform. Indeed it is probable that in the other palaces these subjects were painted on the internal walls, as was done in those Assyrian halls which were not revêted with slabs. With an appropriateness that cannot be too much praised, sculpture seems always to have been used in parts of the building exposed to atmospheric injury, and because of the exposure to have been employed there in preference to painting.

Besides these buildings on the platform there are the remains of

several others on the plain, and within the precincts of the town of Istakr is a building still called the Harem of Jemsheed, and which may in reality have been the residence of the Achæmenian kings. It certainly belongs to their age, and from the irregularity of its form, and its general proportions, looks very much more like a residence, properly so called, than any of the monumental erections on the neighbouring platform of Persepolis.

Looked at from an architectural point of view the principal defect of the interior arrangement, especially of the smaller Persepolitan halls, is that their floor is unnecessarily crowded with pillars. As these had to support only a wooden roof, some might have been dispensed with, or a more artistic arrangement have been adopted. This would no doubt have been done but for the influence of the Assyrian style, in which frequent pillars were indispensable to support the heavy flat roofs, and as they were of timber a greater number were required than would have been the case if of stone. Those of wood also looked less cumbersome and less in the way than those made of more durable materials.

It is also a defect that the capitals of the pillars retain at Persepolis so much of the form of their wooden prototypes. In wood such capitals as those depicted (woodcuts No. 86 or No. 88) would not be offensive. In stone they are clumsy, and the Greeks showed their usual discrimination when they cut away all the volutes but one pair and adopted a stone construction for the entablature.

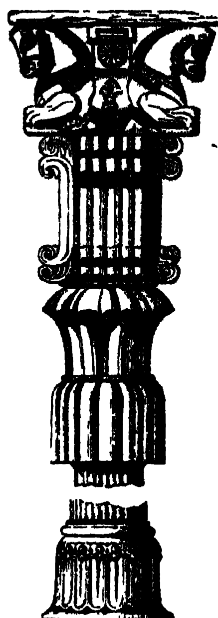
Notwithstanding these defects, there is a grandeur of conception about the Persepolitan halls which entitles them to our admiration. Their greatest point of interest to the architectural student consists probably in their being examples of a transition from a wooden to a stone style of art, and in their enabling us to complete and understand that art which had been elaborated in the valley of the Euphrates during previous centuries, but which owing to the perishable nature of the materials employed has almost wholly passed away, without leaving sufficient traces to enable all its characteristics to be understood or restored.

SUSA.

The explorations of Mr. Loftus at Susa in 1850 have laid bare the foundations of a palace almost identical both in plan and dimensions with the Chehil Minar at Persepolis. It is, however, much more completely ruined, the place having long been used as a quarry by the inhabitants of the neighbouring plains, so that now only the bases of the pillars remain in situ, with fragments of the shafts and capitals strewed everywhere about, but no walls or doorways, or other architectural members to enable us to supply what is wanting at Persepolis.

The bases seem to be of the same form and style as those at Perse-

polis, but rather more richly carved. The capitals are also more elaborate, but more essentially wooden in their form, and betray their origin not only in the exuberance of their carving but also in the disproportion of the capital to the shaft. In wood so large a capital does not look disproportioned to so slender a shaft; in stone the effect is most disagreeable, and was to a certain extent remedied at Persepolis so soon as the result was perceived. Whether the Persians would ever have been able to shake off entirely the wooden original is not quite clear, but the Greeks being bound by no such association, cut the knot at once, and saved them the trouble.



88 Restored Elevation of Capital at Susa. From Loftus

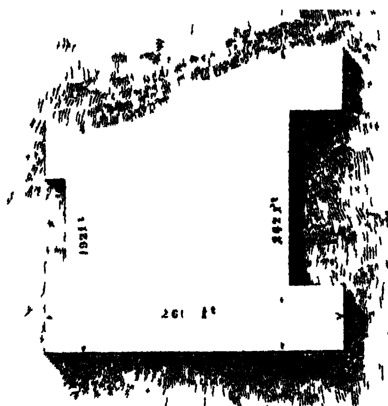
Inscriptions round the bases of the pillars inform us that the Hall was erected by Darius and Xerxes, but repaired or restored by Artaxerxes Mnemon, who added the inscriptions. In all probability it is the identical hall in which the scenes described in the book of Esther took place. The foundations of other parts of this palace might be no doubt laid bare by further excavations; but the ruin of the place has been so complete, that little of interest in an architectural point of view can be looked for: below these Persian ruins are probably buried the remains of long preceding dynasties, which deeper excavations would lay bare, and which would in all probability afford a rich harvest to the historical explorer.

Passargadæ.

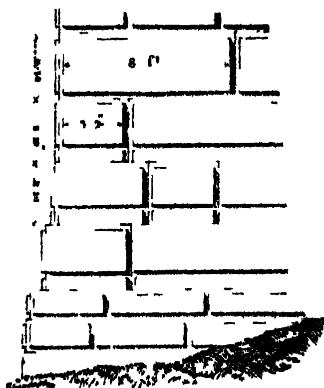
In their present state the remains at Passargadæ are, perhaps, more interesting to the antiquary than to the architect, the palaces on the plain being so ruined that their architectural arrangements cannot be understood or restored.

On the side of a hill overlooking the plain is a platform of masonry (woodcut No. 89) which originally supported either a temple or fire-altar, but this has now entirely disappeared, and the structure is only remarkable for the beauty of its masonry and the large dimensions of the stones with which it is built. These are bevilled (woodcut 90) not only at their joints but often on their faces with the same flat sinking as is found in all the Jewish works at Jerusalem, and sometimes in Greek buildings of the best age. Thus an ornament of great beauty and elegance is formed out of what would otherwise be merely a plain mass of masonry.

On the plain are the foundations of several large buildings, probably palaces, temples, or basilicas, but all so completely destroyed that it is now impossible to say what their original form or destination may have been. One pillar only is now standing, a plain shaft, without capital or base, and more like an Indian *lât* than a column destined to support a roof.



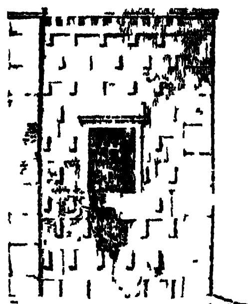
89. Plan of Platform at Passargadæ.



90. Elevation of Platform at Passargadæ.

FIRE TEMPLES.

Near the town of Istakr, and opposite the tombs of Naksh-i-Rustam, stands a small tower-like building, represented in the woodcut. The lower part is solid, the upper contains a small square apartment, roofed by two great flat slabs of stone, to which access is obtained by a doorway situated at some distance from the ground.



91. Li tabah at Istakr. No scale.

Both the traditions of the place, and the knowledge we have of their religious practices, point to this as one of the fire temples of the ancient Persians. Its roof is internally still black, probably with the smoke of ancient fires, and, though simple and insignificant as an architectural monument, it is interesting as the only form of a temple apart from regal state which the ancient Persians possessed.

Another, almost identical in form, is found at Passargadæ. The celebrated Kaabah at Mecca, to which all the Moslem world now bow in prayer, is probably a third, while the temple represented in woodcut No. 75, from Lord Aberdeen's black stone, may be a repre-

sentation of such a temple as these, with its curtains and paraphernalia complete. It is too evident however that the Persians were not a temple-building people, and the examples that have come down to our time are too few and too insignificant on which to found any theory.

TOMBS.

Little requires to be said of the tombs of the Persians; that of Darius is represented in plan and elevation in woodcut No. 82, and, as before remarked, there is a copy on the rock of the façade of his palace. Internally, three small cells contained the remains of the king, with those of the persons, probably his favourite wife or wives, for whom he had destined that honour. Close by this, at Naksh-i-Rustam, are four others, and in the rock behind Persepolis are three more tombs of the Achæmenian kings identical with these in all essential respects; but still with such a difference in workmanship and detail as would enable a careful architectural student easily to detect a sequence, and so affix to each, approximately at least, the name of the king whose sepulchre it is. Unfortunately, that of Darius only is inscribed; but his position in the dynasty is so well known, that, starting from that point, it would be easy to complete the series with the others.

CHAPTER V.

INVENTION OF THE ARCH.

BEFORE leaving this early section of architecture, it may be as well briefly to refer to the invention of the true arch, regarding which considerable misconception still exists.

It is generally supposed that the Egyptians were ignorant of the true principles of the arch, and only employed two stones meeting one another at a certain angle in the centre when they wished to cover a larger space than could conveniently be done by a single block. This, however, seems to be a mistake, as many of the tombs and chambers around the pyramids and the temples at Thebes are roofed by stone and brick arches of a semicircular form, and perfect in every respect as far as the principles of the arch are concerned.

Several of these have been drawn by Lepsius, and are engraved in his work, but, as no text accompanies them, and the drawings are not on a sufficient scale to make out the hieroglyphics, where any exist, their date cannot now be ascertained. Consequently these examples cannot yet be used as the foundation of any argument on the subject, though the curved form of the roofs in the third pyramid would alone be sufficient to render it more than probable that during the period of the 4th dynasty the Egyptians were familiar with this expedient.

At Beni Hassan, during the time of the 12th dynasty, curvilinear forms reappear in the roofs (woodcut No. 15), used in such a manner as to render it almost certain that they are copied from roofs of arcuative construction. Behind the Rhamession at Thebes there are a series of arches in brick, which seem undoubtedly to belong to the same age[1] as the building itself, and Sir G. Wilkinson mentions a tomb at Thebes, the roof of which is vaulted with bricks, and still bears the name of Amenoph I., of the 18th dynasty.

The temple at Abydos, erected by Rhamses II., shows the same peculiarity as the tombs at Beni Hassan, of a flat segmental arch thrown across between the stone architraves. In this instance it is also a copy in stone, but such as must have been originally copied from one of brick construction. There is also every reason to believe that the apartments of the little pavilion at Medinet Habou (woodcuts Nos. 31 and 32) were covered with semicircular vaults, though these have now disappeared.[2]

[1] Wilkinson's 'Egypt and Thebes,' pp. 81 and 126.
[2] 'Manners and Customs of the Egyptians,' vol. iii. p. 263.

In Ethiopia Mr Hoskins found stone arches vaulting the roofs of the porches to the pyramids, perfect in construction, and, what is still more singular, showing both circular and pointed forms. These, as before remarked, are probably of the time of Tirhakah, or, at all events, not earlier than the age of Solomon nor later than that of Cambyses.



92. Section of Tomb near the Pyramids of Gizeh.

In the age of Psammetichus we have several stone arches in the neighbourhood of the pyramids; one, in a tomb at Saccara, has been frequently drawn; but one of the most instructive is that in a tomb discovered by Colonel Campbell (woodcut No. 92), showing a very primitive form of an arch composed of 3 stones only, and above which is another arch of regular construction of 4 courses. In his researches at Nimroud, Layard discovered vaulted drains and chambers below the north west and south east edifices which were consequently as old as the 8th or 9th century before our era, and contemporary with those in the pyramids of Meroe. They were of both circular and pointed forms, and built apparently with great care and attention to the principles of the arch (woodcut No. 93).

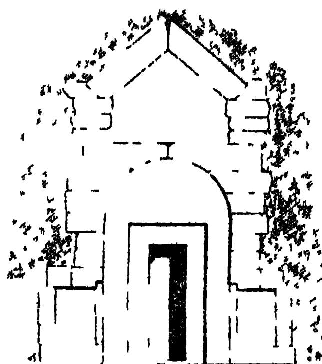


93. Vaulted Drain beneath the South East Palace at Nimroud.

The great discovery of this class is that of the city gates at Khorsabad, which is mentioned at page 158, were spanned by arches of semicircular form so perfect both in construction and in the mode in which they were ornamented as to prove that in the time of Sargon the arch was a usual and well understood building expedient, and one consequently which we may fairly assume to have been long in use.

On the other hand, we have in the temple at Deir el Bahri in Thebes, built by Thothmes III. A curious example of the retention of the old form, when at first sight it would appear as

though the true arch would have been a more correct expedient. In this example, the lower arch is composed of stones bracketting forward horizontally, though the form of the arch is semicircular; and above this is a discharging arch of two stones used as in the Pyramids. The upper arch is so arranged as to relieve the crown of the lower—which is its weakest part—of all weight, and at the same time to throw the whole pressure on the outer ends of the arch stones, exactly where it is wanted. The whole thus becomes constructively perfect, though it is a more expensive way of attaining the end desired than by an arch.



Arch at Der el Bahri. Lepsius.

The truth seems to be, the Egyptians had not at this age invented voussoirs deeper in the direction of the radii of the arch than in that of its perimeter; and the arch with them was consequently not generally an appropriate mode of roofing. It was the Romans with their tiles who first really understood the true employment of the arch.

So far as we can now understand from the discoveries that have been made, it seems that the Assyrians used the pointed arch for tunnels, aqueducts, and generally for underground work where they feared great superincumbent pressure on the apex, and the round arch above ground where that was not to be dreaded; and in this they probably showed more science and discrimination than we do in such works.

In Europe the oldest arch is probably that of Cloaca Maxima at Rome, constructed under the early kings. It is of stone in 3 rims, and shows as perfect a knowledge of the principle as any subsequent example. Its lasting uninjured to the present day proves how well the art was then understood, and, by inference, how long it must have been practised before reaching that degree of perfection.



Arch of the Cloaca Maxima, Rome. Scale 50 ft. 1 in.

From all this it becomes almost certain that the arch was used as early as the times of the pyramid builders of the 4th dynasty, and was copied in the tombs of Beni Hassan in the 12th, though it may be that the earliest existing example cannot be dated further back than the first kings of the 18th dynasty; from that time, however, there can be no doubt that it was currently used, not only in Egypt, but also in Ethiopia and Assyria.

It would, indeed, be more difficult to account for the fact of such

perfect builders as the Egyptians being ignorant of the arch if such were the case; though, at the same time, it is easy to understand why they should use it so sparingly as they did in their monumental erections.

Even in the simplest arch, that formed of only two stones, such as is frequently found in the pyramids, and over the highest chamber (woodcut No. 7), it will be evident that any weight placed on the apex has a tendency to lower the summit, and press the lower ends of the stones outwards. Where there was the whole mass of the pyramid to abut against, this was of no consequence, but in a slighter building it would have thrust the walls apart, and brought on inevitable ruin.

The introduction of a third stone, as in the arch (woodcut No. 92), hardly remedied this at all, the central stone acting like a wedge to thrust the 2 others apart, and even the introduction of 2 more stones, making 5 as in woodcut No 96, only distributed the pressure without remedying the defect; and without the most perfect masonry every additional joint was only an additional source of weakness.



96. Arches in the Pyramids at Meroe. From Hoskins.

This has been felt by the architects of all ages and in all countries; still the advantage of being able to cover large spaces with small stones or bricks is so great, that many have been willing to run the risk; and all the ingenuity of the Gothic architects of the middle ages was applied to overcoming the difficulty. But even the best of their buildings are unstable from this cause, and require constant care and attention to keep them from falling.

The Indian architects have fallen into the other extreme, refusing to use the arch under any circumstances and preferring the smallest dimensions and the most crowded interiors, to adopting what they consider so destructive an expedient. As mentioned in the Introduction (page 16), their theory is that "an arch never sleeps," and is constantly tending to tear a building to pieces; and, where aided by earthquakes and the roots of trees, there is only too much truth in their belief.

The Egyptians seem to have followed a middle course, using arches either in tombs, where the rock formed an immoveable abutment, or in pyramids and buildings where the mass immensely overpowered the thrust, or underground where the superincumbent earth prevented movement.

They seem also to have used flat segmental arches, of brickwork, between the rows of massive architraves which they placed on their pillars; and as all these abutted one another, like the arches of a bridge, except the external ones, which were sufficiently supported by

the massive walls, the mode of construction was a sound one. This is exactly that which we have re-introduced during the last 30 years, in consequence of the application of cast-iron beams, between which flat segmental arches of brick are thrown, when we desire to introduce a more solid and fire-proof construction than is possible with wood only.

In their use of the arch, as in everything else, the building science of the Egyptians seems to have been governed by the soundest principles and the most perfect knowledge of what was judicious and expedient, and what should be avoided. Many of their smaller edifices have no doubt perished from the scarcity of wood forcing the builders to employ brick arches, but they wisely avoided the use of these in all their larger monuments - in all, in fact, which they wished should endure to the latest posterity.

CHAPTER VI.

JUDEA.

CHRONOLOGICAL MEMORANDA CONNECTED WITH ARCHITECTURE.

	DATES.		DATES.
Solomon	B.C. 1013	Herod	B.C. 20
Ezekiel	573	Titus	A.D. 70
Zerubbabel	520		

The Jews, like the other Semitic races, were not a building people, and never aspired to monumental magnificence as a mode of perpetuating the memory of their greatness. The palace of Solomon was wholly of cedar wood, and must have perished of natural decay in a few centuries, if it escaped fire and other accidents incident to such temporary structures. Their first temple was a tent, their second depended almost entirely on its metallic ornaments for its splendour, and it was not till the Greeks and Romans taught them how to apply stone and stone carving for this purpose that we have anything that can be called architecture in the true sense of the term.

This deficiency of monuments is however by no means peculiar to the Jewish people. As before observed, we should know hardly anything of the architecture of Assyria but for the existence of the wainscot slabs of their palaces and they were not a purely Semitic people, and their art rested on a Turanian basis. Neither Tyre nor Sidon have left us a single monument, nor Utica nor Carthage one vestige that dates anterior to the Roman period. What is found at Jerusalem, at Baalbec, at Palmyra, or Petra, even in the countries beyond the Jordan, is all Roman. What little traces of Phœnician art are picked up in the countries bordering on the Mediterranean are copies, with Egyptian or Grecian details, badly and unintelligently copied, and showing a want of appreciation of the first principles of art that is remarkable in that age. It is therefore an immense gain if by our knowledge of Assyrian art we are enabled, even in a moderate degree, to realise the form of buildings which have long ceased to exist, and are only known to us from verbal description.

The most celebrated secular building of the Jews was the palace which Solomon was occupied in building during the thirteen years which followed his completion of the Temple. As not one vestige of this celebrated building remains, and even its site is a matter of dispute,

the annexed plan must be taken only as an attempt to apply the knowledge we have acquired in Assyria and Judea to the elucidation of the description of the Bible and Josephus, and as such may be considered of sufficient interest to deserve a place in the History of Architecture.

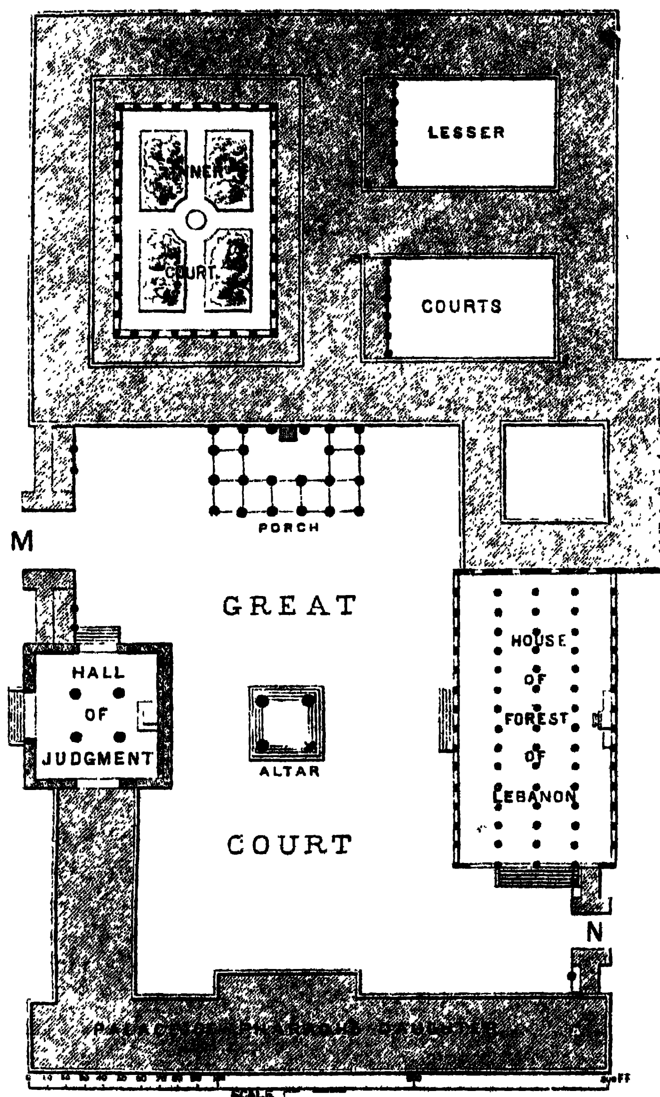
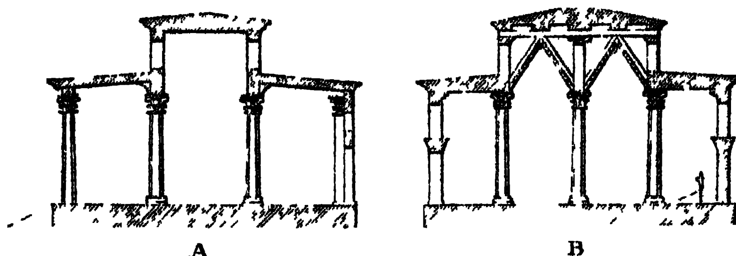


Diagram Plan of Solomon's Palace.

The principal apartment here, as in all Eastern palaces, was the great audience hall; in this instance 150 feet in length by 75 in width. The roof composed of cedar, and like the Ninevite palaces supported by rows of cedar pillars on the floor. According to Josephus, who, how-

ever never saw it, and had evidently the Roman Stoa Basilica of the Temple in his eye, the section would probably have been as shewn in diagram A. But the contemporary Bible narrative, which is the real authority, would almost certainly point to something more like the diagram B in the annexed woodcut.



98. Diagram Sections of the House of the Cedars of Lebanon.

Next in importance to this was the porch. The audience or reception hall of the palace, attached to the private apartments. These two being the Dewannee Aum and Dewannee Khas of Eastern palaces at this day. The Hall of Judgment we may venture to restore with confidence, from what we find at Persepolis and Khorsabad, and the courts are arranged in the diagram as they were found in Ninevite palaces. They are proportioned, so far as we can now judge, to those parts of which the dimensions are given by the authorities, and to the best estimate we can now make of what would be most suitable to Solomon's state, and to such a capital as Jerusalem was at that time.

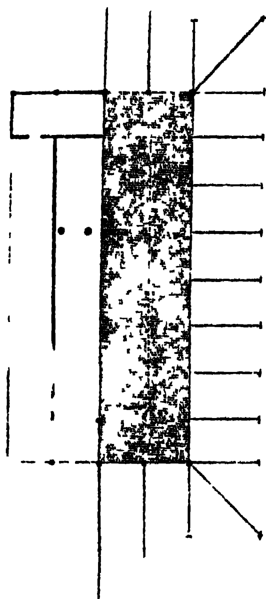
From Josephus we learn that Solomon built the walls of this palace "with stones 10 cubits in length, and wainscoted them with stones that were sawed and were of great value, such as are dug out of the earth for the ornaments of temples, and the adornment of palaces."[1] These were ornamented with sculptures in three rows, but the fourth or upper row was the most remarkable, being covered with foliage in relief of the most exquisite workmanship; above this the walls were plastered and ornamented with paintings in colour; all of which is the exact counterpart of what we find at Nineveh.

From the knowledge we now possess of Assyrian palaces it might indeed be possible to restore this building with fairly approximate correctness, but it would hardly be worth while to attempt this except in a work especially devoted to Jewish art. For the present it must suffice to know that the affinities of the architecture of Solomon's age were certainly Assyrian; and from our knowledge of the one we may pretty accurately realise the form of the others.

[1] Josephus, Ant. vii. 5, § 2.

TEMPLE OF JERUSALEM.

Although not one stone remains upon another of the celebrated Temple of Jerusalem, still the descriptions in the Bible and Josephus are so precise, that now that we are able to interpret them by the light of other buildings, its history can be written with very tolerable certainty.



99 The Tabernacle, showing one half ground plan and one half as covered by the curtains.

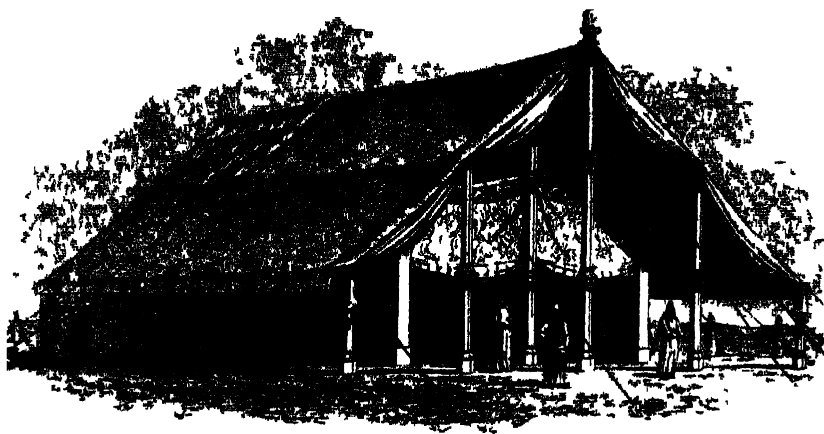
The earliest temple of the Jews was the Tabernacle, the plan of which they always considered as divinely revealed to them through Moses in the desert of Sinai, and from which they consequently never departed in any subsequent erections. Its dimensions were a cella or Holy of Holies, 10 cubits or 15 ft. cube; an outer temple of two such cubes 15 ft. by 30. These were covered by the sloping roofs of the tent which extended 5 cubits in every direction beyond the temple itself, making the whole 40 cubits or 60 ft. in length by 20 cubits or 30 ft. in width. These stood within an enclosure 100 cubits long by 50 cubits wide.[1]

When Solomon (B.C. 1015) built the Temple, he did not alter the disposition in any manner, but adopted it literally, only doubling every dimension. Thus the Holy of Holies became a cube of 20 cubits; the Holy place, 20 by 40; the porch and the chambers which surrounded it 10 cubits each, making a total of 80 cubits or 120 ft. by 40 cubits or 60 ft., with a height of 30 as compared with 15, which was the height of the ridge of the Tabernacle, and it was surrounded by a court the dimensions of which were 200 cubits in length by 100 in width.

Even with these increased dimensions the Temple was a very insignificant building in size. The truth being, that like the temples of Semitic nations, it was more in the character of a shrine or of a treasury intended to contain certain precious works in metal.

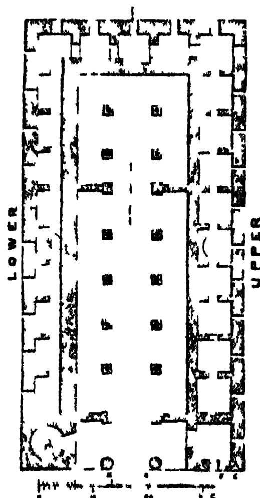
The principal ornaments of its façade were two brazen pillars, Jachin and Boaz, which seem to have been wonders of metal work. The pillars we know of most like them are certainly the Susan and Persepolitan examples (woodcuts Nos. 86 and 88), which have capitals of the same relative proportions; but they are copied from wooden pro-

[1] The details of the restoration are given in the 'Dictionary of the Bible,' *sub voce* 'Temple,' and repeated in my recent work, 'The Holy Sepulchre and the Temple at Jerusalem.'



100. South East View of the Tabernacle as restored by the Author.

of types and are consequently coarser and larger in detail than works so purely metallic as these. Although it is easy to understand how it was quite possible in metal work to introduce all the ornaments enumerated in the Bible, and with gilding and colour to make these objects of wonder, we have no examples with which we can compare them, and any restoration must consequently be somewhat fanciful. Still we must recollect that this was the 'bronze age' of architecture. Homer tells us of the brazen house of Priam and the brazen palace of Alcinous; the Treasuries at Mycenæ were covered internally with bronze plates, and in Etruscan tombs of this age metal was far more essentially the material of decoration than carving in stone or any of the modes afterwards so frequently adopted. The altar of the Temple was of brass. The molten sea supported by twelve brazen oxen. The bases, the lavers, and all the other objects in metal work were in reality what made the Temple so celebrated, and nothing was due to the mere masonry by which we should judge of a Christian church or any modern building.



101. Plan of Solomon's Temple, showing the disposition of the chambers in two storeys.

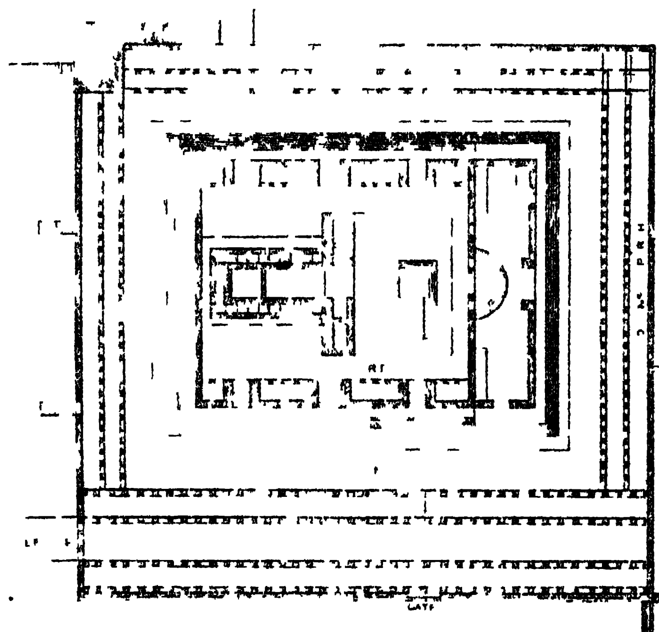
No pillars are mentioned as supporting the roof, but every analogy as well as the constructive necessities of the case, and the fact of the existence of the two pillars in the porch, would lead us to suppose they must have existed: four in the sanctuary and eight in the pronaos.

The temple which Ezekiel saw in a vision on the banks of the

Ezekiel's was identical in dimensions with that of Solomon, in so far as naos and pronaos were concerned. But a passage round the naos was introduced giving access to the chambers, which added 10 cubits to its dimensions every way, making it 100 cubits by 60. The principal court had the same dimensions as in Solomon's Temple, but he added, in imagination at least, three courts each 100 cubits or 150 ft. square, one east and one on the north, another on the southern face.

When the Jews returned from the Captivity they rebuilt the Temple exactly as it had been described by Ezekiel, in so far as dimensions are concerned, except that they do not seem to have been able to accomplish the northern and southern courts.

The materials, however, were probably inferior to the original Temple, and we hear nothing of brazen pillars in the porch nor of the splendid vessels and furniture which made the glory of Solomon's Temple, so that the Jews were probably justified in mourning over its comparative insignificance.[1]

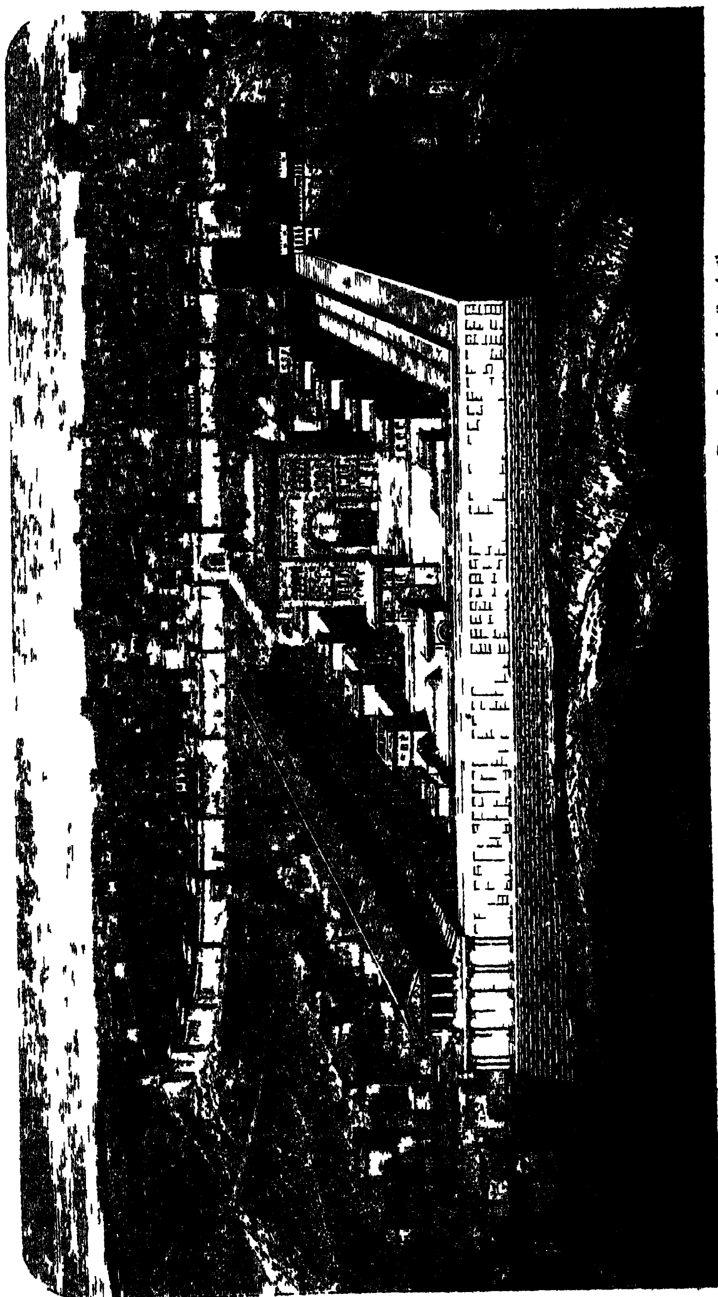


Temple at Jerusalem as rebuilt by Herod. Scale 200 ft. to 1 in.

Its architecture this time probably partook of the Persian character, and if any attempts were made to restore it, it is probable that Persepolis would afford ample details for a correct reproduction.

In the last Temple we have a perfect illustration of the architectural history of the country. The priests restored the Temple itself, not venturing to alter a single one of its sacred dimensions, only adding

[1] Josephus, Ant. xi. 4, § 2.



183. View of the Temple from the East, as it appeared at the time of the Crucifixion. From a drawing by the Author

wings to the façade so as to make it 100 cubits wide, and it is said 100 cubits high, while the length remained 100 cubits as before.[1] At this period, however, Judea was under the sway of the Romans, and under the influence of their ideas, and the outer courts were added with a magnificence of which former builders had no conception, but bore strongly the impress of the architectural magnificence of the Romans.

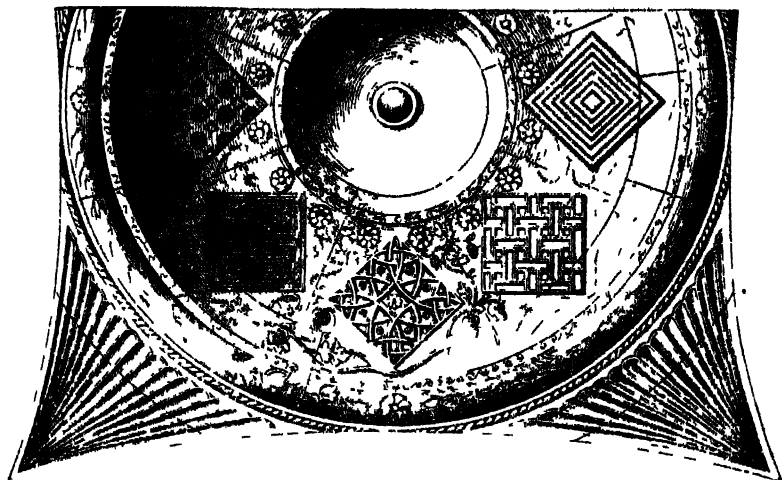
An area measuring 600 feet each way was enclosed by terraced walls of the utmost lithic grandeur. On these were erected porticos unsurpassed by any we know of. One, the Stoa Basilica, had a section equal to that of our largest cathedrals, and surpassed them all in length, and within this colonnaded enclosure were ten great gateways, two of which were of surpassing magnificence. The whole making up a rich and varied pile worthy of the Roman love of architectural display, but in singular contrast with the modest aspirations of a purely Semitic people.

It is always extremely difficult to restore any building from mere verbal description, and still more so when erected by a people of whose architecture we know so little as we do of that of the Jews. Still the woodcut on the preceding page is probably not very far from representing the Temple as it was after the last restoration by Herod. Without attempting to justify every detail, it seems such a mixture of Roman with Phœnician forms as might be expected and is warranted by Josephus's description. There is no feature for which authority could not be quoted, but the difficulty is to know whether or not the example adduced is the right one, or the one which bears most directly on the subject. After all, perhaps, its principal defect is that it does not (how can a modern restoration ?) do justice to the grandeur and beauty of the whole.

Of all this splendour only one little fragment is now left. Beneath the platform of the Temple proper, one gateway still remains, which may certainly be taken as an example of what Jewish art became under Roman influence. It is the gate Huldah, and consists of a long passage measuring 41 feet in width. At the distance of 38 ft. from the face of the outer wall a splendid monolith supports four arches, dividing the vestibule into four equal compartments, each surmounted by a flat dome. All were originally covered with ornament, but one alone now retains it in anything like completeness. It would be difficult to find a more curious illustration of what is sure to happen when people are employing a style which is new to them, and which they do not understand. The ornamentation is of a class that does not belong to domed or curved surfaces at all. What is Roman is wholly misplaced, but the vines and the foliage which are Jewish run through the whole and bind together a design which without them would be very ridiculous. As the only specimen of a class it is curious. It is not, however, Jewish, and is so nearly Roman, that we cannot but feel that it is introduced here before its time in a history of the successive developments of architectural art.

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[1] Josephus, B. J. v. 5, § 4.



104. Roof of one of the Compartments of the Gate Huldah. From De Vogüé.

The Temple of the Sun at Palmyra is another building very similar to this.[1] It consists of a cloistered enclosure of somewhat larger dimensions than that at Jerusalem, measuring externally 730 ft. by 715, with a small temple of an anomalous form in the centre. It wants, however, all the inner enclosures and curious substructures of the Jewish fane; but this may have arisen from its having been rebuilt in late Roman times, and consequently shorn of these peculiarities. It is so similar, however, that it must be regarded as a cognate temple to that at Jerusalem, though re-erected by a people of another race.

A third temple, apparently very similar to these, is that of Kangovar in Persia.[2] Only a portion now remains of the great court in which it stood, and which was nearly of the same dimensions as those of Jerusalem and Palmyra, being 660 ft. by 568. In the centre are the vestiges of a small temple. At Aizani in Asia Minor [3] is a fourth, with a similar court: but here the temple is more important, and assumes more distinctly the forms of a regular Roman peristylar temple of the usual form, though still small and insignificant for so considerable an enclosure.

None of these are original buildings, but still, when put together and compared the one with the other, and, above all, when examined by the light which discoveries farther east have enabled us to throw on the subject, they may enable us to restore this style in something like its pristine form. At present they are but the scattered fragments of an art of which it is feared no original specimens now remain, and which can only therefore be recovered by induction from similar cognate examples of other though allied styles of art.

1 Dawkins and Wood, 'The Ruins of Palmyra,' Lond. 1753.

2 Texier, 'Arménie et la Perse,' vol. i. pl. 62 and 68.

3 Texier, 'Asie Mineure,' pl. 10 to 21.

CHAPTER VII.

ASIA MINOR.

CONTENTS.

Historical notice — Tombs at Smyrna — Doganlu — Lycian tombs.

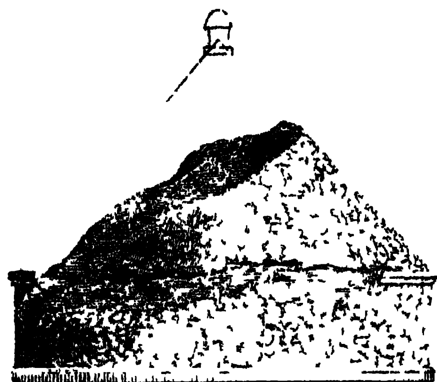
It is now perhaps in vain to expect that any monuments of the most ancient times, of great extent or of great architectural importance, remain to be discovered in Asia Minor; still it is a storehouse from which much information may yet be gleaned, and whence we may expect the solution of many dark historical problems, if ever they are to be solved at all.

Situated as that country is in the very centre of the old world, surrounded on three sides by navigable seas opening all the regions of the world to her commerce, possessing splendid harbours, a rich soil, and the finest climate of the whole earth, it must not only have been inhabited at the earliest period of history, but must have risen to a pitch of civilization at a time preceding any written histories that we possess. We may recollect that, in the time of Psammetichus, Phrygia contended with Egypt for the palm of antiquity, and from the monuments of the 18th dynasty we know what rich spoil, what beautiful vases of gold, and other tribute of a rich and luxurious people, the Pout and Roteno and other inhabitants of Asia Minor brought and laid at the feet of Thothmes and other early kings many centuries before the Christian era.

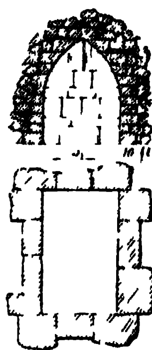
At a later period (716 to 547 B.C.) the Lydian empire was one of the richest and most powerful in Asia; and contemporary with this, and for a long period subsequent to it, the Ionian colonies of Greece surpassed the mother-country in wealth and refinement, and almost rivalled her in literature and art. Few cities of the ancient world surpassed Ephesus, Sardis, or Halicarnassus in splendour; and Troy, Tarsus, and Trebisond mark three great epochs in the history of Asia Minor which are unsurpassed in interest and political importance by the retrospect of any cities of the world. Excepting, however, the remains of the Greek and Roman periods—the great temples of the first, and the great theatres of the latter period—little that is architectural remains in this once favoured land. It happens also unfortunately that there was no great capital city - no central point—where we can look for monuments of importance. The defect in the physical geography of the country is that it has no great river running through it—

no vast central plain capable of supporting a population sufficiently great to overpower the rest and to give unity to the whole.

So far as our researches yet reach, it would seem that the oldest remains still found in Asia Minor are the tumuli of Tantalais, on the northern shore of the gulf of Smyrna. They seem as if left there most opportunely to authenticate the tradition of the Etruscans having sailed from this port for Italy. One of these is represented in woodcuts Nos. 105 and 106. Though these tumuli are built wholly of stone,



105. Elevation of Tumulus at Tantalais. From Texier's 'Asie Mineure.' 100 ft. to 1 in.



106. Plan and Section of Chamber in Tumulus at Tantalais.

no one familiar with architectural resemblances can fail to see in them a common origin with those of Etruria. The stylobate, the sloping sides, the inner chamber, with its pointed roof, all the arrangements indeed, are the same, and the whole character of the necropolis at Tantalais would be as appropriate at Tarquinii or Cære as at Smyrna.

Another tumulus of equal interest historically is that of Alyattes, near Sardis, described with such care by Herodotus,[1] and which has recently been explored by Spiegelthal, the Prussian consul at Smyrna.[2]



107. Section of Tomb of Alyattes. From Spiegelthal. No scale.

According to the measurements of Herodotus, it was either 3800 or 4100 ft. in circumference, at present it is found to be 1180 ft. in diameter, and consequently about 3700 ft. in circumference at the top

[1] Herodotus, i. 93. [2] Lydischen Königsgräber, I. F. M. Olfers. Berlin, 1859.

of the basement, though of course considerably more below. It is situated on the edge of a rocky ridge, which is made level on one side by a terrace-wall of large stones, 60 ft. in height: above this the mound rises to the height of 142 ft.: the total height above the plain being 228 ft. The upper part of the mound is composed of alternate layers of clay, loam, and a kind of rubble concrete. These support a mass of brickwork, surmounted by a platform of masonry; on this one of the steles described by Herodotus still lies, and one of the smaller ones was found close by.

The funereal chamber was discovered resting on the rock at about 160 ft. from the centre of the mound. Its dimensions were 11 ft. by 7 ft. 9 in., and 7 ft. high: the roof flat and composed of large stones, on which rested a layer of charcoal and ashes, 2 ft. in thickness, evidently the remains of the offerings which had been made after the chamber was closed, but before the mound had been raised over it.

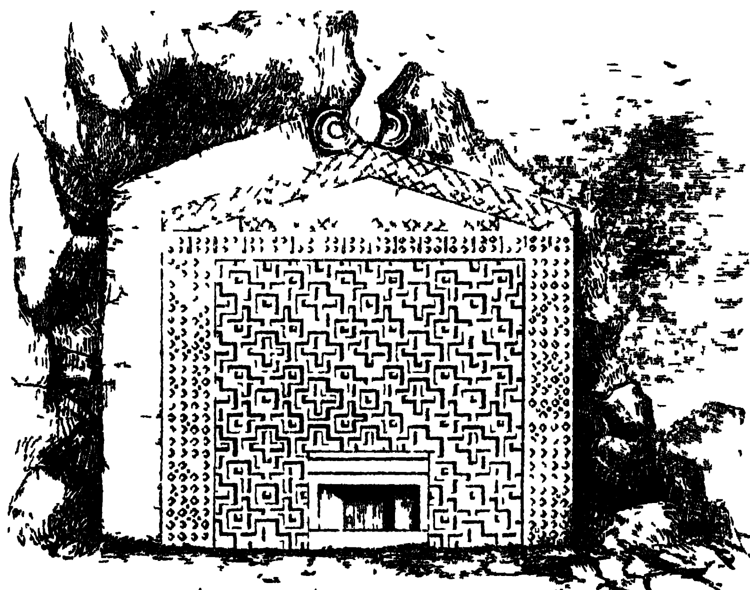
There are in the same locality an immense number of tumuli of various dimensions, among which Herr Spiegenthal fancies he can discriminate three classes belonging to three distinct ages; that of Alyattes belonging to the most modern. This is extremely probable, as at this time (B.C. 561) the fashion of erecting tumuli as monuments was dying out in this part of the world, though it continued in less civilized parts of Europe till after the Christian era.

The tumuli that still adorn the Plain of Troy are probably contemporary with the older of the three groups of those around the Gygean Lake. Indeed there does not seem much reason for doubting that they were really raised over the ashes of the heroes who took part in that memorable struggle, and whose names they still bear.

It is not clear whether any other great groups of tumuli exist in Asia Minor, but it seems more than probable that in the earliest times the whole of this country was inhabited by a Pelasgic race, who were the first known occupants of Greece, and who built the so-called Treasuries of Mycenæ and Orchomenus, and who sent forth the Etruscans to civilize Italy. If this be so, it accounts for the absence of architectural remains, for they would have left behind them no buildings but the sepulchres of their departed great ones; and if their history is to be recovered, it must be sought for in the bowels of the earth, and not in anything existing above ground.

Next to these in point of age and style comes a curious group of rock-cut monuments, found in the centre of the land at Doganlu. They are placed on the rocky side of a narrow valley, and are unconnected apparently with any great city or centre of population. Generally they are called tombs, but there are no chambers nor anything about them to indicate a funereal purpose, and the inscriptions which accompany them are not on the monuments themselves, nor do they refer to such a destination. Altogether, they are certainly among the

most mysterious remains of antiquity, and, beyond a certain similarity to the rock-cut tombs around Persepolis, present no features that afford even a remote analogy to other monuments which might guide us in our conjectures as to the purpose for which they were designed. They are of a style of art clearly indicating a wooden origin, and consist of a square frontispiece, either carved into certain geometric shapes, or apparently prepared for painting; at each side is a flat pilaster, and above a pediment terminating in two scrolls. Some—apparently the more modern—have pillars of a rude Doric order, and all indeed are much more singular than beautiful. When more of the same class are discovered, they may help us to some historic data: all that we can now advance is, that, judging from the inscriptions on them and the traditions in Herodotus, they would appear to belong to some race from Thessaly, or thereabouts, who at some remote period crossed the Hellespont and settled in their neighbourhood; they date possibly as far back as 1000, and most probably 700 at least B.C.

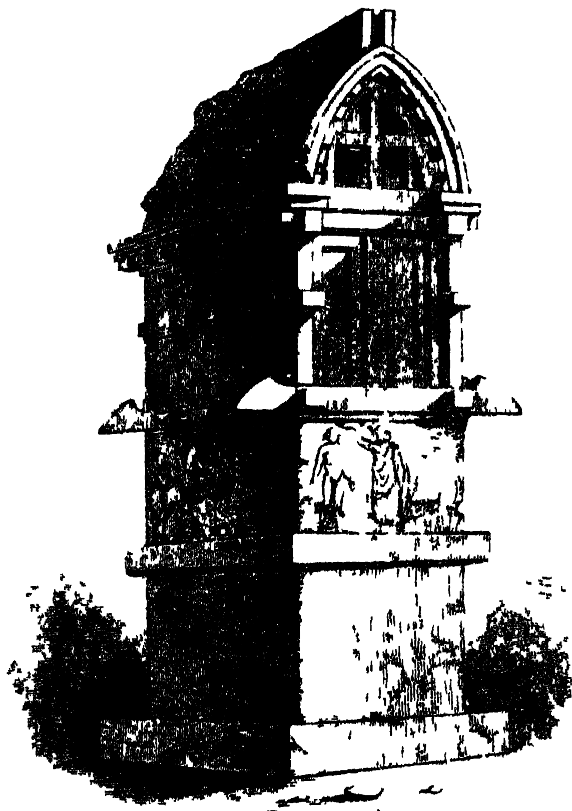


108 Rock-cut Frontispiece at Doganlu. From Texier's 'Asie Mineure.'

There are other rock-cut sculptures farther east, at Pterium and elsewhere; but all these are figure sculptures, without architectural form or details, and therefore hardly coming within the limits of this work.

The only remaining important architectural group in Asia Minor is that of Lycia, made known in this country since the year 1838, by the investigations of Sir Charles Fellows and others. Interesting though they certainly are, they are extremely disheartening to any one looking

for earlier remains in this land,—inasmuch as all of them, and more especially the older ones, indicate distinctly a wooden origin—more strongly perhaps than any architectural remains in the western world. The oldest of them cannot well be carried farther back than the Persian conquest of Cyrus and Harpagus. In other words, it seems perfectly evident that up to that period the Lycians used only wood for their buildings, and that it was only then that they, like the Persians themselves, first learnt to substitute for their frail and perishable structures others of a more durable material.



16. Lycian Tomb. From British Museum.

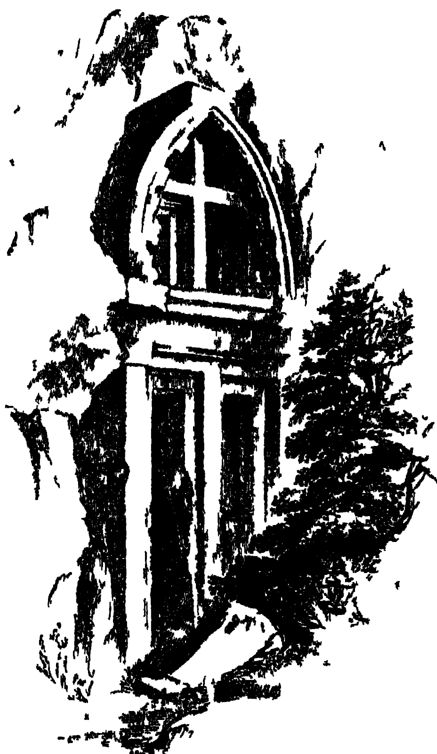
As already observed, the same process can be traced in Egypt in the earliest ages. In central Asia it was effected by the Persians. In India it continued as late as the 4th or 5th centuries A.D. In Greece—in what was not borrowed from the Egyptians—the change took place about the same time as in Lycia, that is to say in the 6th century B.C. What is important to observe here is that, wherever the process can be detected, it is in vain to look for earlier buildings. It is only in the infancy of stone architecture that men adhere to wooden forms, and as

soon as habit gives them familiarity with the new material they abandon the incongruities of the style, and we lose all trace of the original form, which never reappears at an after age.

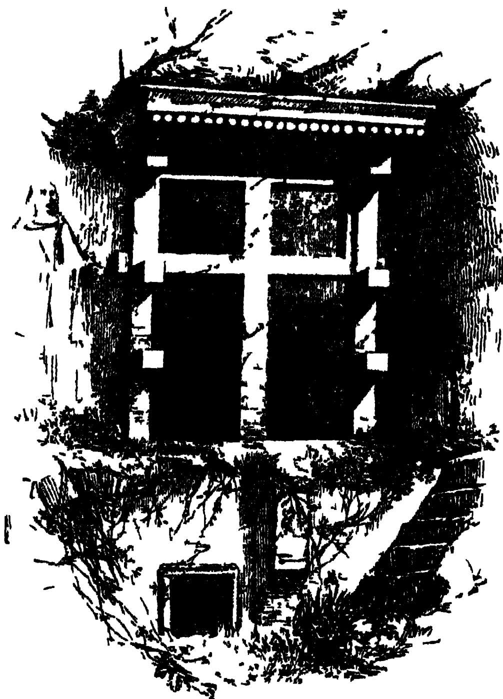
All the original buildings of Lycia are tombs or monumental erections of some kind, and generally may be classed under two heads those having curvilinear, and those having rectilinear roofs, of both which classes examples are found structural—or standing alone as well as rock cut The woodcut (No 109) represents a perfectly constructed tomb It consists first of a double podium, which may have been in all cases or at least generally, of stone Above this is a rectangular chest or sarcophagus certainly copied from a wooden form all the mortises and framing even to the pins that held them together being literally rendered in the stonework Above this is a curvilinear roof of pointed form which also is in all its parts a copy of an original in wood

When these forms are repeated in the rock the stylobate is omitted and only the upper part represented, as shown in the annexed woodcut (No 110)

When the curvilinear roof is omitted a flat one is substituted nearly similar to those common in the country at the present day consisting of beams of unsquared timber, laid side by side as close as they can be laid, and over this a mass of concrete or clay sufficiently thick to prevent the rain from penetrating through Sometimes this is surmounted by a low pediment, and sometimes the lower framing also stands out from the rock, so as to give the entrance of the tomb something of a porchlike form Both these forms are illustrated in the two woodcuts (Nos 111 and 112), and numerous varieties of them are shown in the works of Sir Charles Fellows and others, all containing the same elements, and betraying most distinctly the wooden origin from which they were derived.



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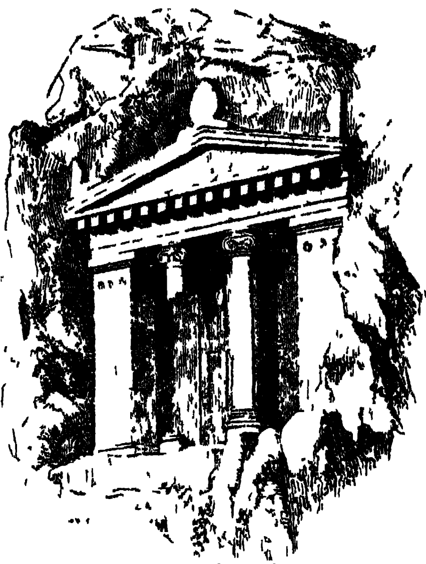


Rock-cut Lycian Tomb. From Sir Charles Fellows's work.



Rock-cut Lycian Tomb. From Texier's 'Asie Mineure.'

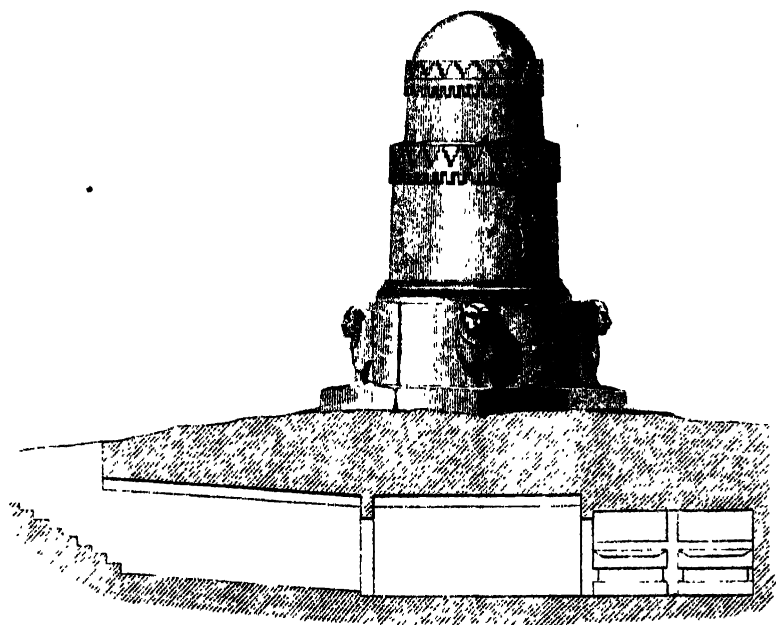
The last form that these buildings took was in the substitution of an Ionic façade for these carpentry forms: this was not done apparently at once, for, though the Ionic form was evidently borrowed from the neighbouring Greek cities, it was only adopted by degrees, and even then betrayed more strongly the wooden forms from which its entablature was derived, than is usually found in other or more purely Grecian examples. As soon as it had fairly gained a footing, the wooden style was abandoned, and a masonry one substituted in its stead. The whole change took place in this country probably within a century, but this is not a fair test of the time such a process usually takes, as here it was evidently done under foreign influence, and with the spur given by the example of a stone-building people. We have no knowledge of how long it took in Egypt to effect the transformation. In India, where the form and construction of the older Buddhist temples resemble so singularly the examples in Lycia, the process can be traced through five or six centuries; and in Persia it took perhaps nearly as long to convert the wooden designs of the Assyrians into even the imperfect stone architecture of the Achaemenians. Even in their best and most perfect buildings, however, much remained to be done before the carpentry types were fairly got rid of, and the style became entitled to rank among the masonic arts of the world.



113. Ionic Lycian Tomb. From Texier's 'Asie Mineure.'

The remaining ancient buildings of Asia Minor were all built by the Greeks and Romans, each in their own style, so that their classification and description belong properly to the chapters treating of the architectural history of those nations, from which they cannot properly be separated, although it is at the same time undoubtedly true that the purely European forms of the art were considerably modified by the influence on them of local Asiatic forms and feelings. The Ionic order, for instance, which arose in the Grecian colonies on the coast, is only the native style of this country Doricized, if the expression may be used. In other words, the local method of building had become so modified and altered by the Greeks in adapting it to the Doric, which had become the typical style with them, as to cause the loss of almost all its original

Asiatic forms. It thus became essentially a stone architecture with external columns, instead of a style indulging only in wooden pillars, and those used internally, as there is every reason to suppose was the earlier form of the art. The Ionic style, thus composed of two elements, took the arrangement of the temples from the Doric, and their details from the Asiatic original. The Roman temples, on the contrary, which have been erected in this part of the world, in their columns and other details exactly follow the buildings at Rome itself; while, as in the instances above quoted of Jerusalem, Palmyra, Kangovar, and others, the essential forms and arrangements are all local and Asiatic. The former are Greek temples with Asiatic details, the latter Asiatic temples with only Roman masonic forms. The Greeks in fact were colonists, the Romans only conquerors; and hence the striking difference in the style of Asiatic art executed under their respective influence. We shall have frequent occasion in the sequel to refer to this difference.



114. Elevation of the Monument and Section of the Tomb at Amrith. From Renan.[1]

Though not strictly within the geographical limits of this chapter, there is a group of tombs at Amrith—the ancient Marathos, on the coast of Syria—which are too interesting to be passed over; but so

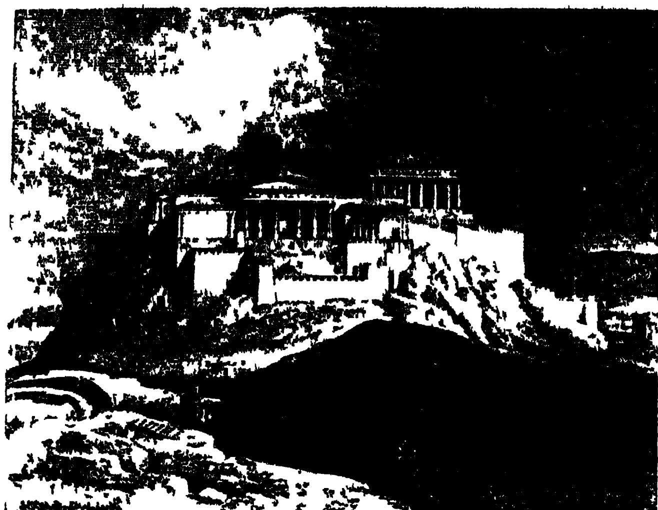
[1] In reality the monument stands exactly over the centre of the rock-cut sepulchre. The section line must, therefore, be understood to be carried back about 10 feet from the face of the monument.

exceptional in the present state of our knowledge, that it is difficult to assign them their proper place anywhere.

The principal monument represented in woodcut No. 114 is 31 feet 8 inches in height, composed of very large blocks of stone, and situated over a sepulchral cavern. There is no inscription or indication to enable us to fix its date with certainty. The details of its architecture might be called Assyrian; but we know of nothing in that country that at all resembles it. On the other hand there is a moulding on its base, which, if correctly drawn, would appear to be of Roman origin, and there is a look about the lions that would lead us to suspect they were carved under Greek influence; after the age of Alexander at least.

The interest consists in its being almost the only perfect survivor of a class of monuments at one time probably very common; but which we are led to believe from the style of ornamentation were generally in brick. It is also suggestive from its close resemblance to the Buddhist topes in Afghanistan and India; and lastly were I asked to point out the building in the old world which most resembled the stele which Herod erected over the Tombs of the Kings at Jerusalem, in expiation of his desecration of their sanctity,[1] this is the monument to which I should unhesitatingly refer.

[1] Josephus, Ant. xvi. 7, § 1.



West View of the Acropolis [illegible] Athens

BOOK III.

CHAPTER I.

GREECE.

CONTENTS.

Historical notice — Pelasgic art — Tomb of Atreus — Other remains — Hellenic Greece — History of the orders — Doric order — The Parthenon — Ionic order — Corinthian order — Caryatides — Forms of temples — Mode of lighting — Municipal architecture — Theatres.

CHRONOLOGICAL MEMORANDA.

	DATES		DATES
[illegible] from	B.C. 1–0 t 1101	Battle of Salamis	B.C. 480
Return of the Heraclidæ to Peloponnesus	1104	Theron at Agrigentum [illegible] temple	480
———		[illegible]on at Athens. Temple of Theseus built	469
Olympiads commence	776	Pericles at Athens. Parthenon finished	438
[illegible] Corinth—Building of temple		Temple of Jupiter at Olympia finished	436
[illegible]	655 to 581	Propylæa at Athens built from	437 to 432
Selinus [illegible] first temple com[illegible]		Selinus destroyed by Carthaginians	410
[illegible]	626	Erechtheium at Athens finished	409
[illegible]—Building of temple		Monument of Lysicrates at Athens	335
[illegible]	508 to 499	Death of Alexander the Great	324
Battle of Marathon	490		

Until within a very recent period the histories of Greece and Rome have been considered as the ancient histories of the world, and even now, in our universities and public schools, it is scarcely acknowledged that a more ancient record has been read on the monuments of Egypt, and dug out of the bowels of the earth in Assyria.

It is nevertheless true that the decipherment of the hieroglyphics on the one hand, and the reading of the arrow-headed characters on the other, have disclosed to us two forms of civilization anterior to that which reappeared in Greece in the 8th century before Christ. Based on those that preceded it, the Hellenic form developed itself there with a degree of perfection never before seen, nor has it, in its own peculiar department, ever been since surpassed.

These discoveries have been of the utmost importance, not only in correcting our hitherto narrow views of ancient history, but in assisting to explain much that was obscure, or utterly unintelligible, in those histories with which we were more immediately familiar. We now, for the first time, comprehend whence the Greeks obtained many of their arts and much of their civilization, and to what extent the character of these was affected by the sources from which they were derived.

Having already described the artistic forms of Egypt and Assyria, it is not difficult to discover the origin of almost every idea, and of every architectural feature, that was afterwards found in Greece. But even with this assistance we should not be able to understand the phenomena which Greek art presents to us, were it not that the monuments reveal to us the existence of two distinct and separate races existing contemporaneously in Greece. If the Greeks were as purely Aryan as their language would lead us to believe, all our ethnographic theories are at fault. But this is precisely one of those cases where archæology steps in to supplement what philology tells us, and to elucidate what that science fails to reveal. That the language of the Greeks, with the smallest possible admixture from other sources, is pure Aryan no one will dispute; but their arts, their religion, and frequently their institutions, tend to ascribe to them an altogether different origin. Fortunately the ruins at Mycenæ and Orchomenos are sufficient to afford us a key to the mystery. From them we learn that at the time of the war of Troy a people were supreme in Greece who were not Hellenes, but who were closely allied to the Etruscans and other tomb-building, art-loving people. Whether they were purely Turanian, or merely ultra-Celtic, may be questioned; but one thing seems clear, that this people were then known to the ancients under the name of Pelasgi, and it is their presence in Greece, mixed up with the purely Dorian races, which explains what would otherwise be unintelligible in Grecian civilization.

Except from our knowledge of the existence of a strong infusion of Turanian blood into the veins of the Grecian people, it would be impossible to understand how a people so purely Aryan in appearance came to adopt a religion so essentially Anthropic and Ancestral. Their belief in oracles, their worship of trees, and many minor peculiarities were altogether abhorrent to the Aryan mind.

The existence of these two antagonistic elements satisfactorily explains how it was that while art was unknown in the purely Dorian city

of Sparta, it flourished so exuberantly in the Pelasgic city of Athens; why the Dorians borrowed their architectural order from Egypt, and hardly changed its form during the long period they employed it; and how it came to pass that the Persians brought theirs into Greece and modified it so essentially that we hardly recognise the original in its altered and more perfect form. It explains, too, how the different states of Greece were artistic or matter-of fact in the exact proportion in which either of the two elements predominated in the people.

Thus the poetry of Arcadia was unknown in the neighbouring state of Sparta; but the Doric race there remained true to their institutions, and spread their colonies and their power further than any other of the little principalities of Greece. The institutions of Lycurgus could never have been maintained in Athens; but, on the other hand, the Parthenon was as impossible in the Lacedemonian state. Even in Athens art would not have been the wonder that it became without that happy admixture of the two races which then prevailed, mingling the common sense of the one with the artistic feeling of the other, which tended to produce the most brilliant intellectual development which has yet dazzled the world with its splendour.

The contemporary presence of these two races perhaps also explains how Greek civilization, though so wonderfully brilliant, passed so quickly away. Had either race been pure, the Dorian institutions might have lasted as long as the village-systems of India or the arts of Egypt or China; but where two dissimilar races mix, the tendency is inevitably to revert to the type of one, and, though the intermixture may produce a stock more brilliant than either parent, the type is less permanent and soon passes away. So soon was it the case, in this instance, that the whole of the great history of Greece may be said to be comprehended in the period ranging between the battle of Marathon (B.C. 490) and the peace concluded with Philip of Macedon by the Athenians (B.C. 346): so that the son of a man who was born before the first event may have been a party to the second. All those wonders of patriotism, of poetry, and art, for which Greece was famous, crowded into the short space of a century and a half, is a phenomenon the like of which the world has not seen before, and is not likely to witness again.

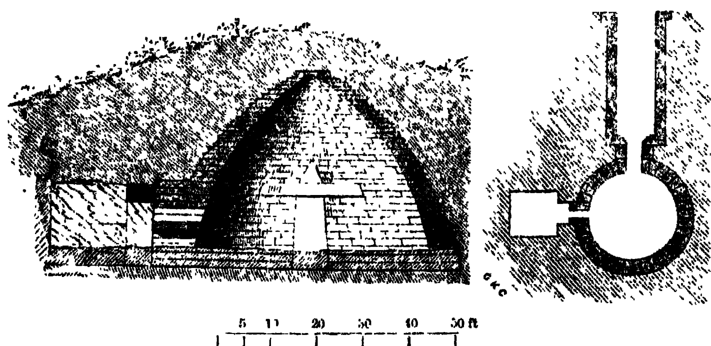
Pelasgic Art.[1]

As might be expected, from the length of time that has elapsed

[1] Writers who derive their knowledge of Grecian art from books only, are extremely indignant when any archæologist ventures to suggest that he knows something of the Pelasgi, or of their affinities. Their language has entirely perished; and the written accounts are so conflicting and unsatisfactory, that no clear ideas on the subject can be obtained from them. It is not therefore to be wondered at that authorities should hitherto have differed so much regarding them. The testimony of their works is, however, so clear and distinct, that the book-worms would do well to keep their tempers till at least they have mastered, and can refute it.

since the Pelasgic races ruled in Greece, and owing to the numerous changes that have taken place in that country since their day, their architectural remains are few, and comparatively insignificant. It has thus come to pass that, were it not for their tombs, their city walls, and their works of civil engineering, such as bridges and tunnels—in which they were pre-eminent—we should hardly now possess any material remains to prove their existence, or mark the degree of civilization to which they had reached.

The most remarkable of these remains are the tombs of the kings of Mycenæ, a city which in Homeric times had a fair title to be considered the capital of Greece, or at all events to be considered one of the most important of her cities. The Dorians described these as treasuries, as they looked upon such halls as far more than sufficient for the narrow dwelling of the dead. The most perfect and the largest of them now existing is known as the treasury or tomb of Atreus at Mycenæ, shown in plan and section in the annexed woodcut. The principal chamber is



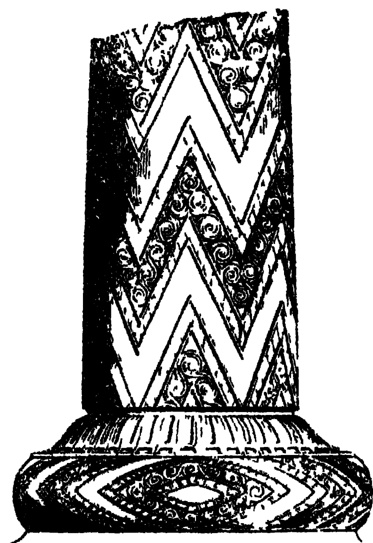
116. Section and Plan of Tomb of Atreus at Mycenæ. Scale of plan 100 ft. to 1 in.

48 ft. 6 in. in diameter, and is, or was when perfect, of the shape of a regular equilateral pointed arch, a form well adapted to the mode of construction, which is that of horizontal layers of stones, projecting the one beyond the other, till one small stone closed the whole, and made the vault complete.

As will be explained further on, this was the form of dome adopted by the Jaina architects in India. It prevailed also in Italy and Asia Minor wherever a Pelasgic race is traced, down to the time when the pointed form again came into use in the middle ages, though it was not then used as a horizontal, but as a radiating arch.

On one side of this hall is a chamber cut in the rock, the true sepulchre apparently, and externally is a long passage leading to a doorway, which, judging from the fragments that remain (woodcut No. 117), must have been of a purely Asiatic form of art, and very unlike anything found subsequent to this period in Greece.

To all appearance the dome was lined internally with plates of brass or bronze, some nails of which metals are now found there; and the holes in which the nails were inserted are still to be seen all over the place. Another of these tombs, erected by Minyas at Orchomenos, described by Pausanias as one of the wonders of Greece, seems from the remains still existing to have been at least 20 ft. wider than this one, and proportionably larger in every respect. All these were covered with earth, and many are now probably hidden which a diligent search might reveal. It is hardly, however, to be hoped that an unrifled tomb may be discovered in Greece, though numerous examples are found in Etruria. The very name of treasury must have excited the cupidity of the Greeks, and as their real destination was forgotten, no lingering respect for the dead could have restrained the hand of the spoiler.



Base of Pillar in front of Tomb of Atreus at Mycenæ.

As domes constructed on the horizontal principle, these two are the largest of which we have any knowledge, though there does not appear to be any reasonable limit to the extent to which such a form of building might be carried. When backed by earth, as these were, it is evident, from the mode of construction, that they cannot be destroyed by any equable pressure exerted from the exterior.

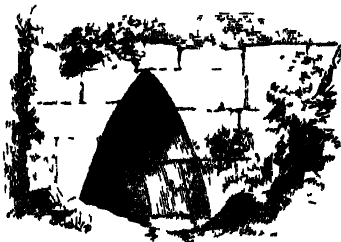
The only danger to be feared is, what is technically called a rising of the haunches; and to avoid this it might be necessary, where large domes were attempted, to adopt a form more nearly conical than that used at Mycenæ. This might be a less pleasing architectural feature, but it is constructively a better one than the form of the radiating domes we generally employ.

It is certainly to be regretted that more of the decorative features of this early style have not been discovered. They differ so entirely from anything else in Greece, and are so purely Asiatic in form, that it would be exceedingly interesting to be able to restore a complete deco-

Pausanias, ix. 38.

ration of any sort. In all the parts hitherto brought to light, an Ionic-like scroll is repeated in every part and over every detail, rather rudely executed, but probably originally heightened by colour. Its counterparts are found in Assyria and at Persepolis, but nowhere else in Greece.[1]

The Pelasgic races soon learnt to adopt for their doorways the more pleasing curvilinear form, with which they were already familiar from their interiors. The annexed illustration (woodcut No. 118) from a gateway at Thoricus, in Attica, serves to show its simplest and earliest form; and the illustration (woodcut No. 121) from Assos, in Asia Minor, of a far more modern date, shows the most complicated form it took in ancient times. In this last instance it is merely a discharging arch, and so little fitted for the purpose to which it is applied, that we can only suppose that its adoption arose from a strong predilection for this shape.



Gateway at Thoricus. From Dodwell's 'Greece.'

Another illustration of Pelasgic masonry is found at Delos (woodcut No. 119), consisting of a roof formed by two arch stones, at a certain angle to one another, similar to the plan adopted in Egypt, and is further interesting as being associated with capitals of pillars formed of the front part of bulls, as in Assyria, pointing again to the intimate connexion that existed between Greece and Asia at this early period of the former's history.

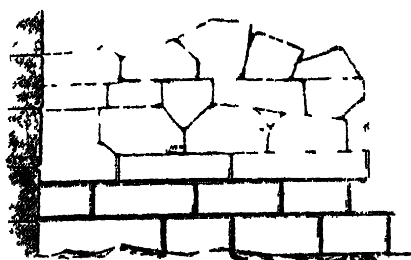


Arch at Delos. From Stuart's 'Athens.'

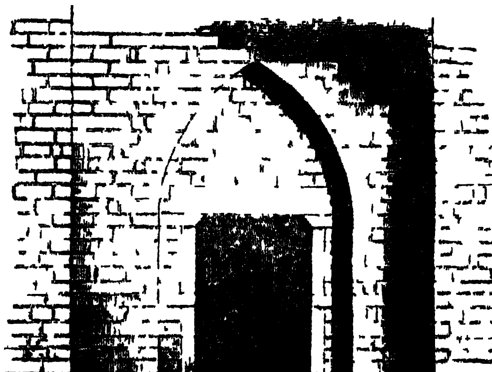
In all these instances it does not seem to have been so much want of knowledge that led these early builders to adopt the horizontal in preference to the radiating principle, as a conviction of its greater durability, as well, perhaps, as a certain predilection for an ancient mode.

[1] The same scroll exists at New Grange in Ireland, in the island of Gozo near Malta, and generally wherever chambered tumuli are found.

In the construction of their walls they adhered, as a mere matter of taste, to forms which they must have known to be inferior to others. In the example, for instance, of a wall in the Peloponnesus (woodcut No. 120), we find the polygonal masonry of an earlier age actually placed upon as perfect a specimen, built in regular courses, or what is technically called *ashlar* work, as any to be found in Greece; and on the other side of the gateway at Assos (woodcut No. 121) there exists a semicircular arch, shown by the dotted lines, which is constructed horizontally, and could only have been copied from a radiating arch.

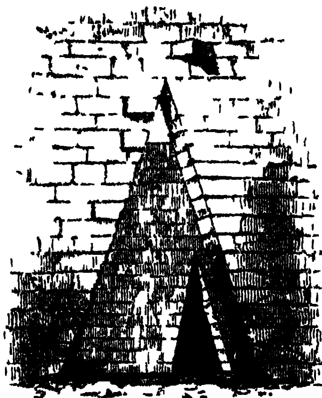

120. Wall in Peloponnesus From Blouet's 'Voyage en Grèce.'

Their city walls are chiefly remarkable for the size of the blocks of stone used, and for the beauty with which their irregular joints and courses are fitted into one another. Like most fortifications, they are generally devoid of ornament, the only architectural features being the openings. These are interesting, as showing the steps by which a peculiar form of masonry was perfected, and which, in after ages, led to important architectural results.

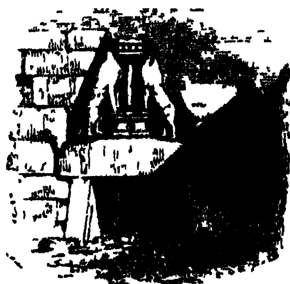

Gateway at Assos From Texier's 'Asie Mineure.'

One of the most primitive of these buildings is a nameless ruin existing near Missolonghi (woodcut No. 122). In it the sides of the opening are straight for the whole height, and, though making a very stable form of opening, it is one to which it is extremely difficult to fit doors, or to close by any known means. It was this difficulty that led to the next expedient adopted of inserting a lintel at a certain height, and making the jambs more perpendicular below, and more sloping above. This method is already exemplified in the tomb of Atreus (woodcut No. 116), and in the gate of the Lions at Mycenæ (woodcut No. 123); but it is by no means clear that the pediments were always filled up with sculpture, as in this instance, or left open. In the walls of a town they were probably always closed, but left open in a

chamber. In the gate at Mycenæ the two lions stand against an altar,[1] shaped like a pillar of a form found only in Lycia, in which the round ends of the timbers of the roof are shown as if projecting into the frieze.



122. Doorway at Missolonghi. From Dodwell.



123. Gate of Lions, Mycenæ.

These are slight remains, it must be confessed, from which to reconstruct an art which had so much influence on the civilization of Greece; but they are sufficient for the archæologist, as the existence of a few fossil fragments of the bones of an elephant or a tortoise suffice to prove the pre-existence of those animals wherever they have been found, and enables the paleontologist to reason upon them with almost as much certainty as if he saw them in a menagerie. Nor is it difficult to see why the remnants are so few. When Homer describes the imaginary dwelling of Alcinous—which he meant to be typical of a perfect palace in his day—he does not speak of its construction or solidity, nor tell us how symmetrically it was arranged; but he is lavish of his praise of its brazen walls, its golden doors with their silver posts and lintels—just as the writers of the Books of Kings and Chronicles praise the contemporary temple or palace of Solomon for similar metallic splendour.

The palace of Menelaus is described by the same author as full of brass and gold, silver and ivory. It was resplendent as the sun and moon, and appeared to the eye of Telemachus like the mansion of Jupiter himself.

No temples are mentioned by Homer, nor by any early writer; but the funeral rites celebrated in honour of Patroclus, as described in the xxiiird book of the Iliad, and the mounds still existing on the plains

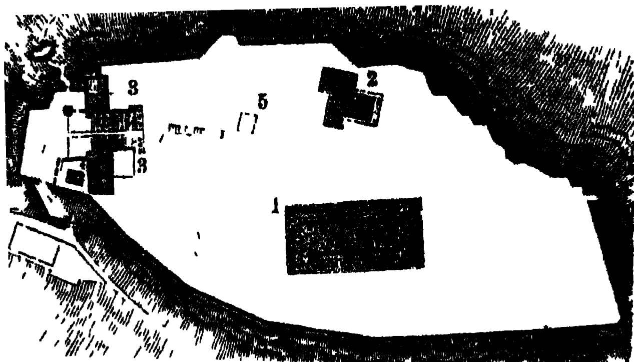
[1] It is to be regretted that no cast of these, the oldest sculptures of their class in existence, has reached this country. One is said to exist at Berlin, but it is inaccessible to science. The drawings hitherto made of them are so inexact that it is impossible to reason on them, whilst as types of a style they are among the most interesting known to exist anywhere.

of Troy testify to the character of the people whose manners and customs he was describing, and would alone be sufficient to convince us that, except in their tombs, we should find little to commemorate their previous existence.

The subject is interesting, and deserves far more attention than has hitherto been bestowed upon it, and more space than can be devoted to it here. Not only is this art the art of people who warred before Troy, but our knowledge of it reveals to us a secret which otherwise might for ever have remained a mystery. The religion of the Homeric poem is essentially Anthropic and Ancestral - in other words, of Turanian origin, with hardly a trace of Aryan feeling running through it. When we know that the same was the case with the arts of those days, we feel that it could not well be otherwise, but what most excites our wonder is the power of the poet, whose song describing the manners and feelings of an extinct race was so beautiful as to cause its adoption as a gospel by a people of another race, tincturing their religion to the latest hour of their existence.

We have very little means of knowing how long this style of art lasted in Greece. The treasury built by Myron king of Sicyon at Olympia about 650 B.C. seems to have been of this style in so far as we can judge of it by the description of Pausanias.[1] It consisted of two chambers, one ornamented in the Doric, one in the Ionic style, not apparently with pillars but with that kind of decoration which appears at that period to have been recognized as peculiar to each. But the entire decorations seem to have been of brass, the weight of metal employed being recorded in an inscription on the building. The earliest example of a Doric temple that we know of—that of Corinth—would appear to belong to very nearly the same age, so that the 7th century B.C. may probably be taken as the period when the old Turanian form of Pelasgic art gave way before the sterner and more perfect creations of a purer Hellenic design. Perhaps it might be more correct to say that the Hellenic history of Greece commenced with the Olympiads (B.C. 776), but before that kingdom bloomed into perfection an older civilization had passed away, leaving little beyond a few tombs and works of public utility as records of its prior existence. It left, however, an undying influence which can be traced through every subsequent stage of Grecian history, which gave form to that wonderful artistic development of art, the principal if not the only cause of the unrivalled degree of perfection to which it subsequently attained.

[1] Pausanias, vi. 19.



124 Plan of the Acropolis at Athens

1 Parthenon 2 Erechtheium 3 Propylæa 4 Temple of Nike Apteros 5 Statue of Minerva

CHAPTER II.

HELLENIC GREECE

HISTORY OF THE ORDERS.

The culminating period of the Pelasgic civilization of Greece was at the time of the war with Troy—the last great military event of that age, and the one which seems to have closed the long and intimate connexion of the Greek Pelasgians with their cognate races in Asia.

Sixty years later the irruption of the Thessalians, and twenty years after that event the return of the Heracleidæ, closed in a political sense that chapter in history, and gave rise to what may be styled the Hellenic civilization, which proved the great and true glory of Greece

Four centuries, however, elapsed, which may appropriately be called the dark ages of Greece, before the new seed bore fruit, at least, in so far as art is concerned. These ages produced, it is true, the laws of Lycurgus, a characteristic effort of a truly Aryan race, conferring as they did on the people who made them that power of self-government, and capacity for republican institutions, which gave them such stability at home and so much power abroad, but which were as inimical to the softer glories of the fine arts in Sparta as they have proved elsewhere.

When, after this long night, architectural art reappeared, it was at Corinth, under the Cypselidæ, a race of strongly marked Asiatic tendencies; but it had in the mean time undergone so great a transformation as to well nigh bewilder us. On its reappearance it was no longer characterised by the elegant and ornate art of Mycenæ, and the cognate

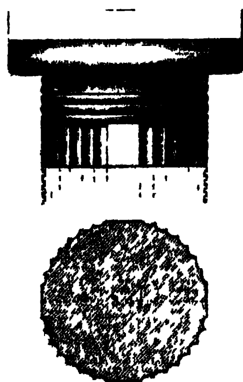
forms of Asiatic growth, but had assumed the rude, bold proportions of Egyptian art, and with almost more than Egyptian massiveness.

Doric Temples in Greece.

The age of the Doric temple at Corinth is not, it is true, satisfactorily determined; but the balance of evidence would lead us to believe that it belongs to the age of Cypselus, or about 650 B.C. The pillars are less than four diameters in height, and the architrave—the only part of the superstructure that now remains—is proportionately heavy. It is, indeed, one of the most massive specimens of architecture existing, more so than even its rock-cut prototype at Beni-Hassan,[1] from which it is most indubitably copied. As a work of art, it fails from excess of strength, a fault common to most of the efforts of a rude people, ignorant of their own resources, and striving, by the expression of physical strength alone, to obtain all the objects of their art.

Next in age to this is the little temple at Ægina.[2] Its date, too, is unknown, though, judging from the character of its sculpture, it probably belongs to the middle of the sixth century before Christ.

We know that Athens had a great temple on the Acropolis, contemporary with these, and the frusta of its columns still remain, which, after its destruction by the Persians, were built into the walls of the citadel. It is more than probable that all the principal cities of Greece had temples commensurate with their dignity before the Persian war. Many of these were destroyed during that struggle, but it also happened then, as in France and England in the 12th and 13th centuries, that the old temples were thought unworthy of the national greatness, and of that feeling of exaltation arising from the successful result of the greatest of their wars, so that almost all those which

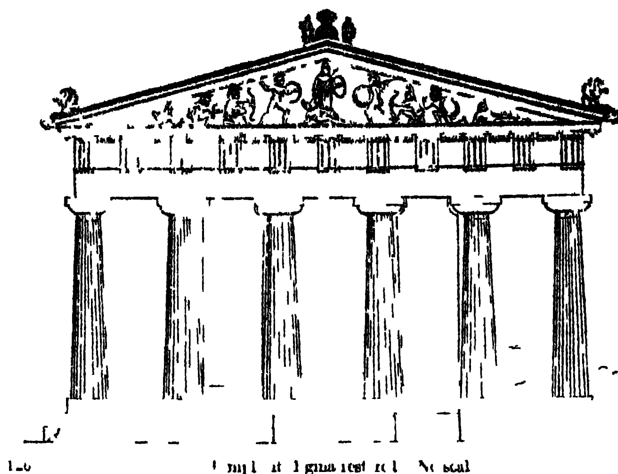

125. Capital in Temple at Karnac. From E. Falkener.

[1] If the examples at Beni-Hassan and elsewhere are not considered sufficient to settle the question, it will be difficult to refuse the evidence of this one (woodcut No. 125) taken from the southern temple at Karnac, built in the age of Thothmosis III and Amenophis III.; say 1600 years before Christ, or 1000 years before the earliest Grecian example known. In this instance the abacus is separated from the shaft, there is a bold echinus and a beaded necking; in fact all the members of the Grecian order, only wanting the elegance which the Greeks added to it.

In the memoir by Mr. Falkener ('Museum of Classical Antiquities,' vol. i. p. 87) from which the woodcut is borrowed, 27 proto-Doric columns are enumerated as still existing in eight different buildings, ranging from the Third Cataract to Lower Egypt.

[2] The dimensions are 94 feet by 45, covering consequently only 4230 feet.

remained were pulled down or rebuilt. The consequence is, that nearly all the great temples now found in Greece were built in the 40 or 50 years which succeeded the defeat of the Persians at Salamis and Platæa.



126. Temple at Ægina restored. No scale.

The oldest temple of this class is that best known as the Theseium, or temple of Theseus, at Athens though it is nearly certain that it ought more properly to be considered the temple of the god Mars. It constitutes a link between the archaic and the perfect age of Grecian art more perfect than the temple at Ægina or any that preceded it, but falling short of the perfection of the Parthenon its near neighbour both in locality and date.

Of all the great temples the best and most celebrated is the Parthenon, the only octastyle Doric temple in Greece and in its own class undoubtedly the most beautiful building in the world. It is true it has neither the dimensions nor the wondrous expression of power and eternity inherent in Egyptian temples nor has it the variety and poetry of the Gothic cathedral, but for intellectual beauty, for perfection of proportion for beauty of detail and for the exquisite perception of the highest and most recondite principles of art ever applied to architecture it stands utterly and entirely alone and unrivalled—the glory of Greece, and the shame of the rest of the world.

Next in size and in beauty to this was the great hexastyle temple of Jupiter at Olympia, finished two years later than the Parthenon. Its dimensions were nearly the same, but, having only six pillars in front instead of eight, as in the Parthenon, the proportions were different, this temple being 95 ft by 230, the Parthenon 101 ft by 227.

To the same age belongs the exquisite little temple of Apollo Epicurius at Bassæ (47 ft by 125), the temple of Minerva at Sunium,

the greater temple at Rhamnus, the Propylæa at Athens, and indeed all that is greatest and most beautiful in the architecture of Greece. The temple of Ceres at Eleusis also was founded and designed at this period, but its execution belongs to a later date.

Doric Temples in Sicily.

Owing, probably, to some local peculiarity, which we have not now the means of explaining, the Dorian colonies of Sicily and Magna Græcia seem to have possessed, in the days of their prosperity, a greater number of temples, and certainly retain the traces of many more, than were or are to be found in any of the great cities of the mother country. The one city of Selinus alone possesses six in two groups, three in the citadel, and three in the city. Of these the oldest is the central one of the first named group. Its sculptures, first discovered by Messrs. Angel and Harris, indicate an age only slightly subsequent to the foundation of the colony, B.C. 636, and therefore probably nearly contemporary with the example above mentioned at Corinth. The most modern is the great octastyle temple, which seems to have been left unfinished at the time of the destruction of the city by the Carthaginians, B.C. 410. The remaining four range between these dates, and therefore form a tolerably perfect chronometric series at that time when the arts of Greece itself fail us. The inferiority, however, of provincial art, as compared with that of Greece itself, prevents us from applying such a test with too much confidence to the real history of the art, though it is undoubtedly valuable as a secondary illustration.

At Agrigentum there are three Doric temples, two small hexastyles, whose age may be about 500 to 480 B.C., and one great exceptional example, the largest of all the Grecian temples of the age, being 360 ft. long by 173 broad. These gigantic dimensions, however, were beyond the legitimate powers or proportions of the order employed; and the architect was consequently forced to adopt expedients which must always have rendered it a clumsy though a magnificent building. Its date is perfectly known, as it was commenced by Theron, B.C. 480, and left unfinished seventy five years afterwards, when the city was destroyed by the Carthaginians.

At Syracuse there still exist the ruins of a very beautiful temple of this age; and at Egesta are remains of another in a much more perfect state.

Pæstum, in Magna Græcia, boasts of the most magnificent group of temples after that at Agrigentum. One is a very beautiful hexastyle, belonging probably to the middle of the fifth century B.C., built in a bold and very pure style of Doric architecture, and still retains the greater part of its internal columnar arrangement.

The other two are more modern, and are far less pure both in plan

and in detail, one having nine columns at each end, the central pillars of which are meant to correspond with an internal range of pillars, supporting the ridge of the roof. The other, though of a regular form, is so modified by local peculiarities, so corrupt, in fact, as hardly to deserve being ranked with the beautiful order which it most resembles.

Ionic Temples.

We have even fewer materials for the history of the Ionic order in Greece than we have for that of the Doric. The recent discoveries in Assyria have proved, beyond a doubt, that the Ionic was even more essentially an introduction from Asia than the Doric was from Egypt: the only question is, when it was brought into Greece. My own impression is, that it existed there in one form or another from the earliest ages, but owing to its slenderer proportions, and the greater quantity of wood used in its construction, the examples may have perished, so that nothing is now known to exist which can lay claim to even so great an antiquity as the Persian war.

The oldest example, probably, was the temple on the Ilissus, now destroyed, dating from about 484 B.C.; next to this is the little gem of a temple dedicated to Nike Apteros, or the Wingless Victory, built about 15 years later, in front of the Propylæa at Athens. The last and most perfect of all the examples of this order is the Erechtheium, on the Acropolis: its date is apparently about 420 B.C., the great epoch of Athenian art. Nowhere did the exquisite taste and skill of the Athenians show themselves to greater advantage than here; for though every detail of the order may be traced back to Nineveh or Persepolis, all are so purified, so imbued with purely Grecian taste and feeling, that they have become essential parts of a far more beautiful order than ever existed in the land in which they had their origin.

The largest, and perhaps the finest, of Grecian Ionic temples, was that built about a century afterwards, at Tegea, in Arcadia—a regular peripteral temple, of considerable dimensions, but the existence of which is now known only from the description of Pausanias.[1]

As in the case, however, of the Doric order, it is not in Greece itself that we find either the greatest number of Ionic temples, or those most remarkable for size, but in the colonies in Asia Minor, and more especially in Ionia, whence the order most properly takes its name.

That an Ionic order existed in Asia Minor before the Persian wars is quite certain, but all examples perished in that memorable struggle; and when it subsequently reappeared, the order had lost

[1] Pausanias, viii. 45.

much of its purely Asiatic character, and assumed certain forms and tendencies borrowed from the simpler and purer Doric style.

If any temple in the Asiatic Greek colonies escaped destruction in the Persian wars, it was that of Juno at Samos. It is said to have been built by Polycrates, and appears to have been of the Doric order. The ruins now found there are of the Ionic order, 346 ft. by 190 ft., and must have succeeded the first mentioned. The apparent archaisms in the form of the bases, &c., which have misled antiquarians, are merely Eastern forms retained in spite of Grecian influence.

More remarkable even than this was the celebrated temple of Diana at Ephesus, 425 ft. long by 220 ft. wide, consequently covering 93,500 ft., an area exceeding that of any ancient temple known out of Egypt, or of any mediæval cathedral, except Milan, which is slightly larger. Even its site, however, is now a matter of dispute.

Besides these, there was a splendid decastyle temple, dedicated to Apollo Didymæus, at Miletus, 156 ft. wide by 295 ft. in length; an octastyle at Sardis, 261 ft. by 144 ft.; an exquisitely beautiful, though small hexastyle, at Priene, 122 ft. by 64 ft.; and another at Teos, besides smaller examples elsewhere, many of which have no doubt perished.

CORINTHIAN TEMPLES.

The Corinthian order is as essentially borrowed from the bell-shaped capitals of Egypt, as the Doric is from their oldest pillars. Like everything they touched, the Greeks soon rendered it their own, by the freedom and elegance with which they treated it. The acanthus-leaf with which they adorned it is essentially Grecian, and we must suppose that it had been used by them as an ornament, either in their metal or wood work, long before they adopted it in stone as an architectural feature.

As in everything else, however, the Greeks could not help betraying in this also the Asiatic origin of their art, and the Egyptian order with them was soon wedded to the Ionic, whose volutes became an essential, though subdued part of this order. It is in fact a composite order, made up of the bell-shaped capitals of the Egyptians and the spiral of the Assyrians, and adopted by the Greeks at a time when national distinctions were rapidly disappearing, and when true and severer art was giving place to love of variety. At that time also mere ornament and carving were supplanting the purer class of form and the higher aspirations of sculpture with which the Greeks ornamented their temples in their best days.

In Greece the order does not appear to have been introduced, or at least generally used, before the age of Alexander the Great; the oldest authentic example, and also one of the most beautiful, being the Choragic Monument of Lysicrates (B.C. 335), which, notwithstanding

the smallness of its dimensions, is one of the most beautiful works of art of the merely ornamental class to be found in any part of the world. A simpler example, but by no means so beautiful, is that of the small porticos of the building commonly but improperly called the Tower of the Winds at Athens. The largest example in Greece of the Corinthian order is the temple of Jupiter Olympius at Athens. This, however, may almost be called a Roman building, though on Grecian soil having been commenced in its present form under Antiochus Epiphanes, in the 2nd century B.C., by the Roman architect Cossutius, and only finished by Hadrian, to whom probably we may ascribe the greatest part of what now remains. Its dimensions are 171 ft. by 354 ft., or nearly those of the interior of the Great Hypostyle Hall at Karnac; and from the number of its columns, their size and their beauty, it must have been when complete the most beautiful Corinthian temple of the ancient world.

Judging, however, from some fragments found among the Ionic temples of Asia Minor, it appears that the Corinthian order was introduced there before we find any trace of it in Greece Proper. Indeed, *à priori* we might expect that its introduction into Greece was a part of that reaction which the elegant and luxurious Asiatics exercised on the severer and more manly inhabitants of European Greece, and which was in fact the main cause of their subjection, first to the Macedonians, and finally beneath the iron yoke of Rome. As used by the Asiatics, it seems to have arisen from the introduction of the bell shaped capital of the Egyptians, to which they applied the acanthus-leaf, sometimes in conjunction with the honeysuckle ornament of the time, as in woodcut No. 127, and on other and later occasions together with the volutes of the same order, the latter combination being the one which ultimately prevailed, and became the typical form of the Corinthian capital.



Ancient Corinthian Capital. From Branchidæ.

Dimensions of Greek Temples.

Although differing so essentially in plan, the general dimensions of the larger temples of the Greeks were very similar to those of the mediæval cathedrals, and although they never reached the altitude of their modern rivals, their cubic dimensions were probably in about the same ratio of proportion.

The following table gives the approximate dimensions, rejecting fractions, of the 8 largest and best known examples:—

Diana, at Ephesus	425 long	220 wide	= 93,500 feet.
Juno, at Samos	346 ,,	190 ,,	= 65,740 ,,
Jupiter, at Agrigentum	360 ,,	173 ,,	= 62,280 ,,
Apollo, at Branchidæ	362 ,,	168 ,,	= 60,816 ,,
Jupiter, at Athens	354 ,,	171 ,,	= 60,534 ,,
Didymæus, at Miletus	295 ,,	156 ,,	= 45,020 ,,
Cybele, at Sardis	261 ,,	144 ,,	= 37,884 ,,
Parthenon, at Athens	228 ,,	101 ,,	= 23,028 ,,

There may be some slight discrepancies in this table from the figures quoted elsewhere, and incorrectness arising from such temples as those at Ephesus being measured on the lowest step, and the Parthenon on the highest; but it is sufficient for comparison, which is all that is attempted in its compilation.

DORIC ORDER [1]

The Doric was the order which the Greeks especially loved and cultivated so as to make it most exclusively their own; and, as used

[1] The fact of a proto-Doric order having existed in Egypt a thousand years before it is found in Greece ought to suffice as explaining the origin of the style. Still it may be worth while to try and make this a little clearer, as those who are not familiar with examples of this mode of building, or have not practically employed it — as it has been my fate to do — feel a difficulty in realizing how a brick pier came to be used with a wooden superstructure.

The annexed woodcut illustrates a mode of roofing very usually employed in the

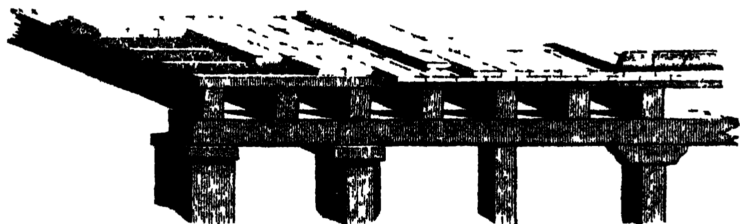
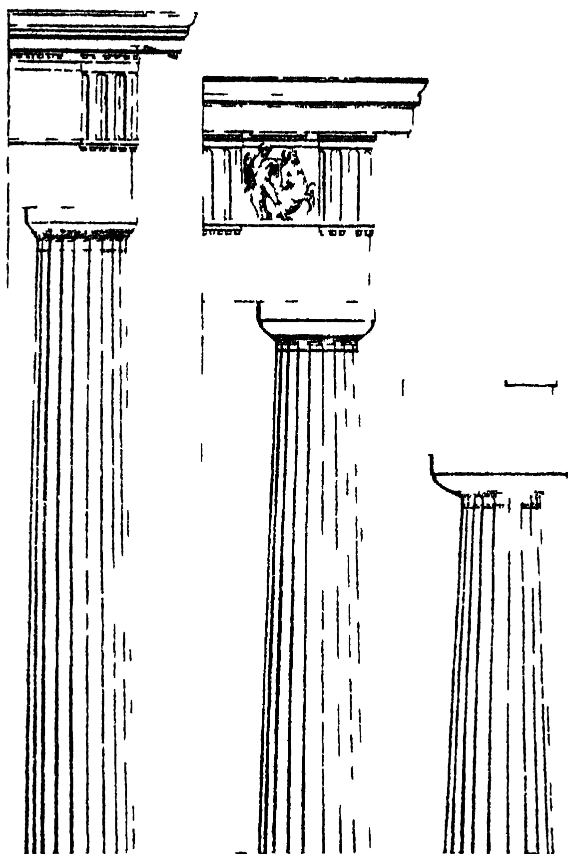


Diagram of Doric construction, as used in the East

East at this day. Generally a square pier of brick-work is employed; and then an abacus of wood or tiles is indispensable to distribute the pressure of a narrow beam over a wider pier. When the pillar is made octagonal this is even more necessary. Where a wooden post is employed it is always of the same thickness as the beam, and is generally morticed into it; or a bracket may be employed, and is particularly advantageous when a junction takes place between two lengths of the architrave. But even then it is only of the same thickness as the beam. In fact there is no difficulty in recognizing the difference between a carpentry and a masonry form. An abacus is as absurd with the former as it is indispensable with the latter; and of course those who used squared timbers for the roof would not employ unhewn trunks of trees for the supports.

On the architrave beam rest the rafters, and on these the purlins — in India generally 3 inches square, and placed 1 foot or 18 inches apart, according to the length of the tiles used. Sometimes one thickness of tiles is employed, and a layer of concrete above; sometimes two, sometimes three thicknesses of tiles, but the timber con-

in the Parthenon, it certainly is as complete and as perfect an architectural feature as any style can be. When first introduced from Egypt, it, as before stated, partook of even more than Egyptian



129. Temple at Delos. Parthenon at Athens. Temple at Corinth.

solidity, but by degrees became attenuated to the weak and lean form of the Roman order of the same name. Woodcut No. 129 illustrates the three stages of progress from the oldest example at Corinth to the

struction is the same in all cases. The one great point to insist upon however is, that an abacus never was used, and never could have been suggested from a timber post or pillar. Timber forms are generally very easily traced as they are in the roof, but not in the pillars of Doric temples.

The base, which was afterwards applied by the Romans, probably was suggested by the shoe, which in certain situations is a necessary part of a wooden post; but the origin of this feature is probably to be found in Assyria, though in a very different form to that of the Roman order. Its absence in the Grecian Doric is another argument in favour of the masonry origin of the pillar in that order.

order as used in the time of Philip at Delos, the intermediate being the culminating point in the age of Pericles: the first is 4·47 diameters in height, the next 6·025, the last 7·015; and if the table were filled up with all the other examples, the gradual attenuation of the shaft would very nearly give the relative date of the example. This fact is in itself sufficient to refute the idea of the pillar being copied from a wooden post, as in that case it would have been slenderer at first, and would gradually have departed from the wooden form as the style advanced. This is the case in all primitive styles. With the Doric order the contrary is the case. The earlier the example the more unlike it is to any wooden original. As the masons advanced in skill and power over their stone material, it came more and more to resemble posts or pillars of wood. The fact appears to be, that either in Egypt or in early Greece the pillar was originally a pier of brickwork, or of rubble masonry, supporting a wooden roof, of which the architraves, the triglyphs, and the various parts of the cornice, all bore traces down to the latest period.

Even as ordinarily represented, or as copied in this country, there is a degree of solidity combined with elegance in this order, and an exquisite proportion of the parts to one another, and to the work they have to perform, that command the admiration of every person of taste, but, as used in Greece, its beauty was very much enhanced by a number of refinements, whose existence was not suspected till lately, and even now cannot be detected but by the most practised eye

The columns were at first assumed to be bounded by strait lines. It is now found that they have an *entasis*, or convex profile, in the Parthenon to the extent of [illegible] of the whole height, and are outlined by a very delicate hyperbolic curve; it is true this can hardly be detected by the eye in ordinary positions, but the want of it gives that rigidity and poverty to the column which is observable in modern examples.[1]

In like manner, the architrave in all temples was carried upwards, so as to form a very flat arch, just sufficient to correct the optical delusion arising from the interference of the sloping lines of the pediment. This, I believe, was common to all temples, but in the Parthenon the curve was applied to the sides also, though from what motive it is not so easy to detect.

Another refinement was making all the columns slope slightly inwards, so as to give an idea of strength and support to the whole. Add to this, that all the curved lines used were either hyperbolas or parabolas. With one exception only, no circular line was employed, not even an ellipse. Every part of the temple was also arranged with

[1] These facts have all been fully elucidated by Mr. Penrose in his beautiful work containing the results of his researches on the Parthenon and other temples of Greece, published by the Dilettanti Society.

the most unbounded care and accuracy, and every detail of the masonry was carried out with a precision and beauty of execution which is almost unrivalled, and it may be added that the material of the whole was the purest and best white marble. All these delicate adjustments, this exquisite finish and attention to even the smallest details, are well bestowed on a design in itself simple, beautiful, and appropriate. They combine to render this order, as found in the best Greek temples, as nearly faultless as any work of art can possibly be, and such as we may dwell upon with the most unmixed and unvarying satisfaction.

The system of definite proportion which the Greeks employed in the design of their temples, was another cause of the effect they produce even on uneducated minds. It was not with them merely that the height was equal to the width, or the length about twice the breadth; but every part was proportioned to all those parts with which it was related, in some such ratio as 1 to 6, 2 to 7, 3 to 8, 4 to 9, or 5 to 10, &c. As the scheme advances these numbers become undesirably high. In this case they reverted to some such simple ratios as 4 to 5, 5 to 6, 6 to 7, and so on.

We do not yet quite understand the process of reasoning by which the Greeks arrived at the laws which guided their practice in this respect; but they evidently attached the utmost importance to it, and when the ratio was determined upon, they set it out with such accuracy, that even now the calculated and the measured dimensions seldom vary beyond such minute fractions as can only be expressed in hundredths of an inch.

Though the existence of such a system of ratios has long been suspected, it is only recently that any measurements of Greek temples have been made with sufficient accuracy to enable the matter to be properly investigated and their existence proved.[1]

The ratios are in some instances so recondite, and the correlation of the parts at first sight so apparently remote, that many would be inclined to believe they were more fanciful than real.[2] It would, however, be as reasonable in a person with no ear, or no musical education, to object to the enjoyment of a complicated concerted piece of music experienced by those differently situated, or to declare that the pain

[1] For measurements we depend on Penrose, 'Principles of Athenian Architecture,' &c., fol., and Cockerell, 'The Temples of Egina and Bassæ,' Lond. 1860. The details of the system were first publicly announced by Watkiss Lloyd, in a paper read to the Institute of British Architects in 1859; afterwards in an appendix to Mr. Cockerell's work, and in several minor publications.

[2] The pyramid-building kings of Lower Egypt seem to have had some distinct ideas of a system of definite proportions in architectural building, and to have put it into practice in the pyramid; at least it has not yet been sought for in the other buildings of that age.

At times I cannot help suspecting more affinity to have existed between the inhabitants of Lower Egypt and those of Greece than is at first sight apparent.

musicians feel from a false note was mere affectation. The eyes of the Greeks were as perfectly educated as our ears. They could appreciate harmonies which are lost on us, and were offended at false quantities which our duller senses fail to perceive. But in spite of ourselves, we do feel the beauty of these harmonic relations, though we hardly know why; and if educated to them, we might acquire what might almost be considered as a new sense. But be this as it may, there can be no doubt but that a great deal of the beauty which all feel in contemplating the architectural productions of the Greeks, arises from causes such as these, which we are only now beginning to appreciate.

To understand, however, the Doric order, we must not regard it as a merely masonic form. Sculpture was always used, or intended to be used, with it. The Metopes between the triglyphs, the pediments of the porticos, and the acroteria or pedestals on the roof, are all unmeaning and useless unless filled or surmounted with sculptured figures. Sculpture is, indeed, as essential a part of this order as the acanthus leaves and ornaments of the cornice are to the capitals and entablature of the Corinthian order; and without it, or without its place being supplied by painting, we are merely looking at the dead skeleton, the mere framework of the order, without the flesh and blood that gave it life and purpose.

It is when all these parts are combined together, as in the portico of the Parthenon (woodcut No. 130), that we can understand this order in all its perfection; for though each part was beautiful in itself, their full value can be appreciated only as parts of a great whole.



The Parthenon. Scale 50 ft. to 1 in.

Another essential part of the order, too often overlooked, is the colour, which was as integral a part of it as its form. Till very lately, it was denied that Greek temples were, or could be, painted; the unmistakeable remains of colour, however, that have been discovered in almost all temples, and the greater knowledge of the value and use of it which now prevails, have altered the public opinion very much on the matter, and most people admit that some colour was used, though few are agreed as to the extent to which it was carried.

It cannot now be questioned that colour was used everywhere internally, and on every object. Externally too it is generally admitted that the sculpture was painted and relieved by strongly coloured backgrounds; the lacunaria, or recesses of the roof, were also

certainly painted; and all the architectural mouldings, which at a later period were carved in relief, have been found to retain traces of their painted ornaments.

It is disputed whether the echinus or carved moulding of the capital was so ornamented. There seems little doubt but that it was; and that the walls of the cells were also coloured throughout and covered with paintings illustrative of the legends and attributes of the divinity to whom the temple was dedicated, or of the purposes for which it was erected. The plane face of the architrave was probably left white, or merely ornamented with metal shields or inscriptions, and the shafts of the columns appear also to have been left plain, or merely slightly stained to tone down the crudeness of the white marble. Generally speaking, all those parts which from their form or position were in any degree protected from the rain or atmospheric influences seem to have been coloured; those particularly exposed, to have been left plain. To whatever extent, however, painting may have been carried, these coloured ornaments were as essential a part of the Doric order as the carved ornaments were of the Corinthian, and made it, when perfect, a richer and more ornamental, as it was a more solid and stable, order than the latter. The colour nowhere interfered with the beauty of its forms, but gave it that richness and amount of ornamentation which is indispensable in all except the most colossal buildings, and a most valuable adjunct even to them.

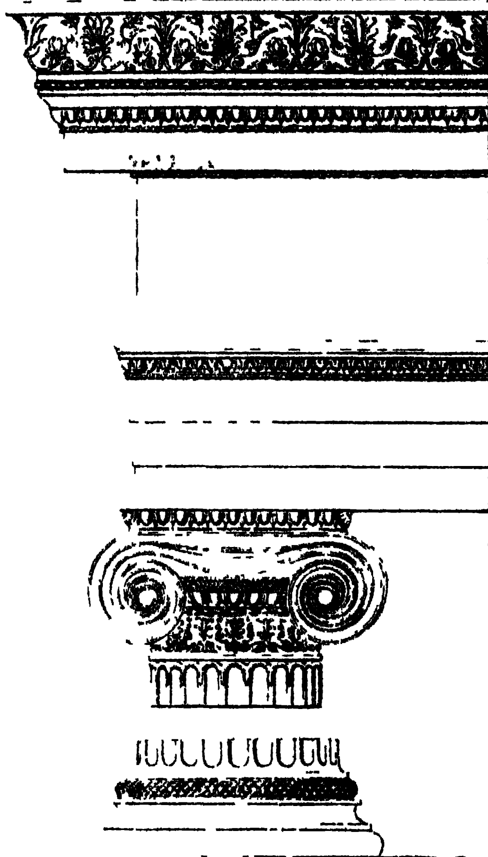
Ionic Order.

The Ionic order, as we now find it, is not without some decided advantages over the Doric. It is more complete in itself and less dependent on sculpture. Its frieze was too small for much display of human life and action, and was probably usually ornamented with lines of animals[1] like the friezes at Persepolis. But the frieze of the little temple of Niké Apteros is brilliantly ornamented in the same style as those of the Doric order. It also happened that those details and ornaments which were only painted in the Doric, were carved in the Ionic order, and remain therefore visible to the present day, which gives to this order a completeness in our eyes which the other cannot boast of. Add to this a certain degree of Asiatic elegance and grace, and the whole when put together makes up a singularly pleasing architectural object. But notwithstanding these advantages, the Doric order will probably always be admitted to be superior, as belonging to a higher class of art, and because all its forms and details are better and more adapted to their purpose than those of the Ionic.

The principal characteristic of the Ionic order is the Pelasgic or

[1] It was called *Zoophorus* (*life or figure bearer*).

Asiatic spiral, here called a volute, which, notwithstanding its elegance, forms at best but an awkward capital. The Assyrian honeysuckle below this, carved as it is with the exquisite feeling and taste which a Greek alone knew how to impart to such an object, forms as elegant an architectural detail as is anywhere to be found; and whether used as the necking of a column, or on the crowning member of a cornice, or on other parts of the order, is everywhere the most beautiful ornament connected with it. Comparing this order with that at Persepolis (woodcut No. 86), the only truly Asiatic prototype we have of it, we see how much the Doric feeling of the Greeks had done to sober it down, by abbreviating the capital and omitting the greater part of the base. This process was carried much farther when the order was used in conjunction with the Doric, as in the Propylæa, than when used by itself, as in the Erechtheium; still in every case all the parts found in the Asiatic style are found in the Greek. The same form and feelings pervade both, and, except in beauty of execution and detail, it is not quite clear how far even the Greek order is an improvement on the Eastern one. The Persepolitan base is certainly the more beautiful of the two, so are many parts of the capital. The perfection of the whole, however, depends on the mode in which it is employed; and it is perfectly evident that the Persian order could not be combined with the Doric nor applied with much propriety as an external order, which was the essential use of all the Grecian forms of pillars.

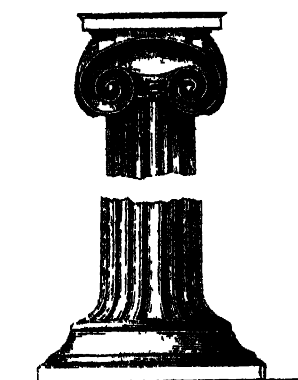


[illegible] of Erechtheium at Athens.

When used between antæ or square piers, as seems usually to have been the case in Assyria, the two-fronted form of the Ionic capital was

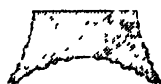
appropriate and elegant; but when it was employed as in the Erechtheium as an angle column, it presented a difficulty which even Grecian skill and ingenuity could not quite conquer. When the Persians wanted the capital to face four ways they turned the side outwards, as at Persepolis (woodcut No. 88), and put the volutes in the angles—which was an awkward mode of getting over the difficulty.

The instance in which these difficulties have been most successfully met, is in the internal order at Bassæ. There the three sides are equal, and are equally seen—the fourth is attached to the wall—and the junction of the faces is formed with an elegance that has never been surpassed. It has not the richness of the order of the Erechtheium, but it excels it in elegance. Its widely spreading base still retains traces of the wooden origin of the order, and carries us back towards the times when a shoe was necessary to support wooden posts on the floor of an Assyrian hall.



132. Ionic Order in Temple of Apollo at Bassæ.

Notwithstanding the amount of carving which the Ionic order displays, there can be little doubt of its having been also ornamented with colour to a considerable extent, but probably in a different manner from the Doric. My own impression is, that the carved parts were gilt, or picked out with gold, relieved by coloured grounds, varied according to the situation in which they were found. The existing remains prove that colours were used in juxtaposition, to relieve and heighten the architectural effect of the carved ornaments of this order.



133. Section of half of the Ionic Capital at Bassæ, taken through the volute.

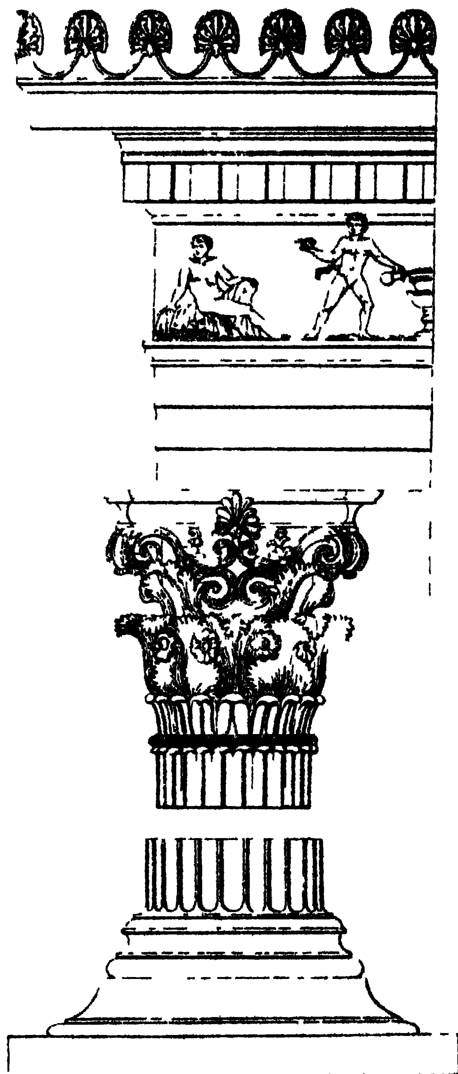
In the Ionic temples at Athens the same exquisite masonry was used as in the Doric, the same mathematical precision and care is bestowed on the entasis of the columns, the drawing of the volutes, and the execution of even the minutest details; and much of its beauty and effect are no doubt owing to this circumstance, which we miss so painfully in nearly all modern examples.

Corinthian Order.

As before mentioned, the Corinthian order was only introduced into Greece in the decline of art, and never rose during the purely Grecian age to the dignity of a temple order. It most probably, however, was used in the more ornate specimens of domestic architecture,

and in smaller works of art, long before any of those examples of it were executed which we now find in Greece.

The most typical specimen we now know is that of the Choragic Monument of Lysicrates (woodcut No. 134), which, notwithstanding

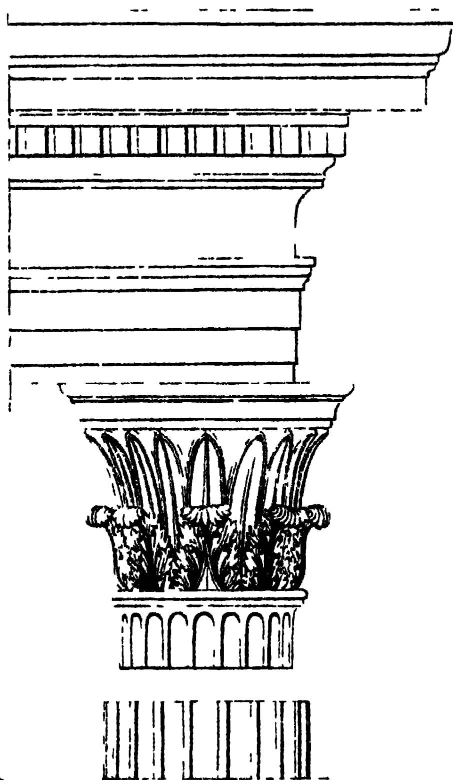


134. Order of the Choragic Monument of Lysicrates.

all its elegance of detail and execution, can hardly be pronounced to be perfect, the Egyptian and Asiatic features being only very indifferently united to one another. The foliaged part is rich and full, but is not carried up into the upper or Ionic portion, which is in compari-

son lean and poor; and though separately the two parts are irreproachable, it was left to the Romans so to blend the two together as to make a perfectly satisfactory whole out of them.

In this example, as now existing, the junction of the column with the capital is left a plain sinking, and so it is generally copied in modern times; but there can be little doubt that this was originally filled by a bronze wreath, which was probably gilt. Accordingly this is so represented in the woodcut as being essential to the completion of the order. The base and shaft have, like the upper part of the capital, more Ionic feeling in them than the order was afterwards allowed to retain; and altogether it is, as here practised, far more elegant, though less complete, than the Roman form which superseded it.



135 Order of the Tower of the Winds, Athens.

The other Athenian example, that of the Tower of the Winds (woodcut No. 135), is remarkable as being almost purely Egyptian in its types, with no Ionic admixture. The columns have no bases, the capitals no volutes, and the water-leaf clings as closely to the bell as it does in the Egyptian examples. The result altogether wants richness,

and, though appropriate on so small a scale, would hardly be pleasing on a larger.

The great example of the temple of Jupiter Olympius differs in no essential part from the Roman order, except that the corners of the abacus are not cut off; and that, being executed in Athens, there is a degree of taste and art displayed in its execution which we do not find in any Roman examples. It strictly speaking, however, belongs to that school, and should be enumerated with them, and not as a Grecian example.

Caryatides.

It has been already explained that the Egyptians never used caryatide figures, properly so called, to support the entablatures of their architecture, their figures being always attached to the front of the columns or piers, which were the real bearing mass. At Persepolis, and elsewhere in the East, we find figures everywhere employed supporting the throne or the platform of the palaces of the kings: not, indeed, *on their heads*, as the Greeks used them, but rather in their uplifted hands.



Caryatide Figure in the British Museum.



137. Caryatide Figure from the Erechtheium.

The name however, as well as their being only used in conjunction with the Ionic order and with Ionic details, all point to an Asiatic origin for this very questionable form of art. As employed in the little portico attached to the Erechtheium, these figures are used with so much taste, and all the ornaments are so elegant, that it is difficult to criticise or find fault; but it is neverthe

less certain that it was a mistake which even the art of the Greeks could hardly conceal To use human figures to support a cornice is unpardonable, unless it is done as a mere secondary adjunct to a building In the Erechtheium it is a little too prominent for this, though used with as much discretion as was perhaps possible under the circumstances Another example of the sort is shown in woodcut No 136 which by employing a taller cap avoids some of the objections to the other but the figure itself on the other hand, is less architectural and so errs on the other side



Telamones at Agrigentum

Another form of this class of support is that of the giants or *Telamones*, instances of which are found supporting the roof of the great temple at Agrigentum and in the baths of the semi Greek city of Pompeii As they do not actually bear the entablature, but only seem to relieve the masonry behind them the employment is less objectionable than that of the female figure above described, but even they hardly fulfil the conditions of true art and their place might be better filled by some more strictly architectural feature

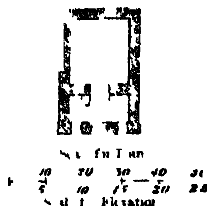
Forms of Temples

The arrangement of Grecian Doric temples shows almost less variety than the forms of the pillars and no materials exist for tracing their gradual development in an historical point of view The temples at Corinth and the oldest at Selinus, are both perfect examples of the hexastyle arrangement to which the Greeks adhered at all ages and though there can be little doubt that the peripteral form, as well as the order itself, was borrowed from Egypt, it still was so much modified before it appeared in Greece, that it would be interesting, if it could be done to trace the several steps by which the change was effected

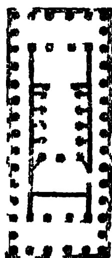
In an architectural point of view this is by no means difficult The simplest Greek temples were mere cells, or small square apartments, suited to contain an image the front being what is technically called *distyle in antis* or with 2 pillars between *antæ*, or square pilaster-like piers terminating the side walls. Hence the interior enclosure of Grecian temples is called the cell or cella, however large and splendid it may be

The next change was to separate the interior into a cell and porch

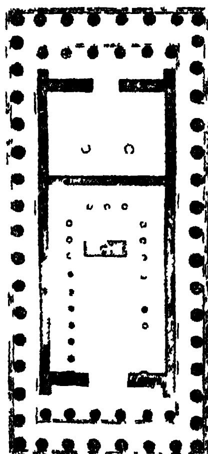
by a wall with a large doorway in it, as in the small temple at Rhamnus (woodcut No. 139), where the opening however can scarcely be called a doorway, as it extends to the roof. A third change was to put a porch of 4 pillars in front of the last arrangement, or, as appears to have been more usual, to bring forward the screen to the position of the pillars as in the last example, and to place the 4 pillars in front of this. None of these plans admitted of a peristyle, or pillars on the flanks. To obtain this it was necessary to increase the number of pillars of the portico to 6, or, as it is termed, to make it hexastyle, the 2 outer pillars being the first of a range of 13 or 15 columns, extended along each side of the temple. The cell in this arrangement was a complete temple in itself, distyle in antis, most frequently made so at both ends, and the whole enclosed in its



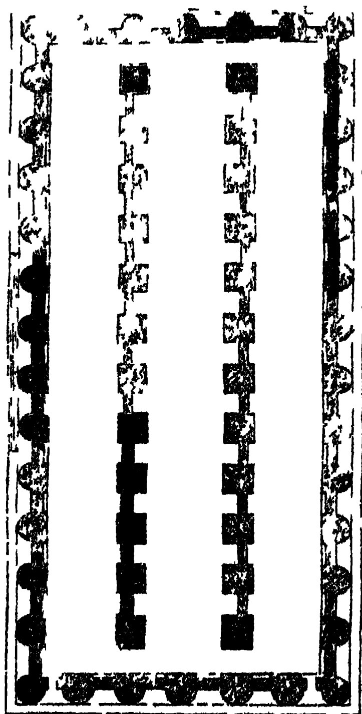
139. Small Temple at Rhamnus.



140. Plan of Temple of Apollo, Bassæ. Scale 100 ft. to 1 in.



141. Plan of Parthenon at Athens. Scale 100 ft. to 1 in.



142. Plan of Great Temple at Agrigentum. Scale 100 ft. to 1 in.

envelope of columns, as in woodcut No. 140. Sometimes the cell was tetrastyle or with 4 pillars in front.

In this form the Greek temple may be said to be complete, very few exceptions occurring to the rule, though the Parthenon itself is one of these few. It has a hexastyle portico at each end of the cell; beyond these inner ones are octastyle porticos, with 17 columns on each flank.

The great temple at Selinus is also octastyle, but it is neither so simple nor so beautiful in its arrangement; and, from the decline of style in the art when it was built, is altogether a very inferior example.

Another great exception is the great temple at Agrigentum (woodcuts No. 142 and 144), where the architect attempted an order on so gigantic a scale that he was unable to construct the pillars with their architraves standing free. The interstices of the columns are therefore built up with walls pierced with windows, and altogether the architecture is so bad, that even its colossal dimensions must have failed to render it at any time a pleasing or satisfactory work of art.

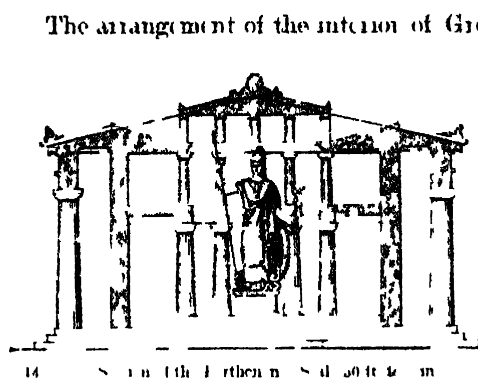
A fourth exception is the temple at Pæstum before referred to, with 9 pillars in front, a clumsy expedient, but which arose from its having a range of columns down the centre to support the ridge of the roof by a simpler mode than the triangular truss usually employed for carrying the ridge between two ranges of columns.

With the exception of the temple at Agrigentum, all these were peristylar, or had ranges of columns all around them enclosing the cell as it were in a case, an arrangement so apparently devoid of purpose, that it is not at first sight easy to account for its universality. It will not suffice to say that it was adopted merely because it was beautiful, for the forms of Egyptian temples, which had no pillars externally, were as perfect and in the hands of the Greeks would have become as beautiful, as the one they adopted. Besides, it is natural to suppose they would rather have copied the larger than the smaller temples, if no motive existed for their preference of the latter. The peristyle, too, was ill suited for an ambulatory, or place for processions to circulate round the temple; it was too narrow for this, and too high to protect the procession from the rain. Indeed, I know of no suggestion except that it may have been adopted to protect the paintings on the walls of the cells from the inclemency of the weather. It hardly admits of a doubt that the walls were painted, and that without protection of some sort this would very soon have been obliterated. It seems also very evident that the peristyle was not only practically, but artistically, most admirably adapted for this purpose. The paintings of the Greeks were, like those of the Egyptians, composed of numerous detached groups, connected only by the story, and it almost required the inter-

vention of pillars or some means of dividing into compartments the surface to be so painted, to separate these groups from one another, and to prevent the whole sequence from being seen at once, while on the other hand nothing can have been more beautiful than the white marble columns relieved against a richly coloured plain surface. The one appears so necessary to the other, that it seems hardly to be doubted that this was the cause, or that the effect must have been most surpassingly beautiful.

Mode of Lighting Temples.

The arrangement of the interior of Grecian temples necessarily depended on the mode in which they were lighted. No one will, I believe, now contend, as was once done, that it was by lamplight alone that the beauty of their interiors could be seen, and as light certainly was not introduced through the side walls, nor could be in sufficient quantities through the doorways, it is only from the roof that it



143. Section of the Parthenon. Scale 50 ft. to 1 in.



144. Part Section, part Elevation of Great Temple at Agrigentum. Scale 50 ft. to 1 in.

could be admitted. At the same time it could not have been by a large horizontal opening in the roof, as has been supposed, as that would have admitted the rain and snow as well as the light; and the only alternative seems to be one I suggested some years ago—of a clerestory,[1] similar internally to that found in all the great Egyptian temples,[2] but externally requiring such a change of arrangement as was necessary to adapt it to a sloping instead of a flat roof. This seems to have been effected by countersinking it into the roof, so as to make it in fact 3 ridges in those parts where the light was admitted, though the regular slope of the roof was retained between these openings so that neither the ridge nor the continuity of the lines of the roof was interfered with. This would effect all that was required, and in the most beautiful manner, it moreover agrees with all the remains of Greek temples that now exist, as well as with all the descriptions that have been handed down to us from antiquity.

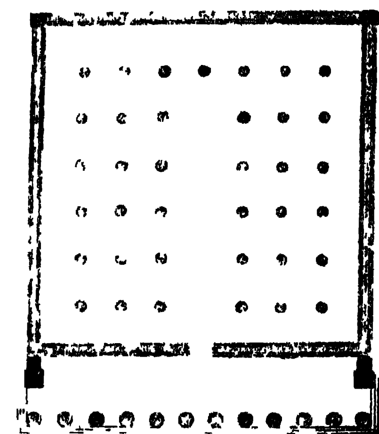
This arrangement will be understood from the section of the Parthenon (woodcut No. 143), restored in accordance with the above explanation, which agrees perfectly with all that remains on the spot as well as with all the accounts we have of that celebrated temple. The same system applies even more easily to the great hexastyle at Paestum, and to the beautiful little temple of Apollo at Bassae, in Phigaleia (woodcut No. 140), and indeed to all regular Greek temples, and what is a more important point in the examination of this theory, it applies equally to the exceptional ones. The side aisles, for instance, of the great temple at Agrigentum were, as before mentioned, lighted by side windows, the central one could only be lighted from the roof, and it is easy to see how this could be effected by introducing it between the telamones, as shown in the woodcut No. 144.

Another exceptional temple is that at Eleusis, which we know to have had windows and shutters above, used in admitting or excluding the light during the celebration of the mysteries. The arrangements of this temple lend themselves admirably to this mode of introducing light, as shown in the plan and section annexed (woodcuts Nos. 145 and 146).

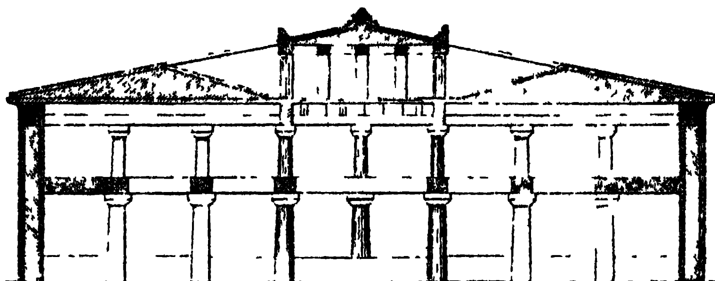
[1] The reasons which induced me to suggest an 'opaion' or clerestory, instead of an "hypaethrum" or skylight, were fully set forth in the 'True Principles of Beauty in Art' in 1849. I afterwards submitted a paper on the same subject to the Institute of British Architects in 1861. On this occasion a considerable amount of discussion took place; but no valid objection was brought forward against my views, except, of course, their novelty, and their being opposed to authority. Sixteen years is probably not long enough time to allow of a new theory being adopted; but as my proposal certainly does meet both the artistic and literary exigencies of the case better than any other that has been put forward, in sixteen more it may probably find its way into books on architecture, or earlier if I should happen to die in the meanwhile.

[2] See woodcuts Nos. 20, 22, 25.

The great temple of Jupiter Olympius (woodcut No. 147) was apparently lighted according to another system, owing probably to its immense height, and other peculiarities of its construction. The light seems to have been introduced into what may be considered a court, or *hypæthrum*, in front of the cell, which was lighted through its inner wall. This seems to have been the temple mentioned by Vitruvius,[1] whose description has given rise to such confusion on this subject. It is decastyle and the only one to which his words apply, or to which it is possible to adapt such a mode of lighting as he describes.



15 Plan of Temple of Ceres at Eleusis Scale 100 ft. to 1 in.



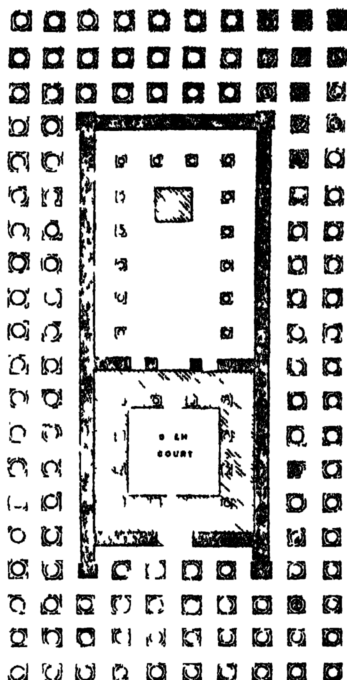
149 Section of Temple of Ceres at Eleusis Scale 50 ft. to 1 in.

The Ionic temples of Asia are all too much ruined to enable us to say exactly in what manner, and to what extent, this mode of lighting was applied to them, though there seems no doubt that the method there adopted was very similar in all its main features.

The little temple of Nikè Apteros, and the temple on the Ilissus, were both too small to require any complicated arrangement of the sort, and the Erechtheium was lighted by windows which still remain at the west end, so that we can hardly feel sure that the same expedient was not adopted to at least some extent in the Asiatic examples. The latter, however, is, with one exception, the sole instance of windows in any European Greek temple, the only other example being in the very exceptional temple at Agrigentum. It is valuable, besides, as showing how little the Greeks were bound by rules, or by any fancied laws of symmetry.

[1] Vitruvius, lib. i. ch. 1.

As is shown in the plan, elevation, and view (woodcuts Nos 148, 149, 150), the Erechtheium consisted, properly speaking, of 3 temples grouped together; and it is astonishing what pains the architect took to prevent their being mistaken for one. The porticos of two of them are on different levels, and the third or caryatide porch is of a different height and different style. Every one of these features is perfectly symmetrical in itself, and the group is beautifully balanced and arranged and yet no Gothic architect in his wildest moments could have conceived anything more picturesquely irregular than the whole becomes. Indeed there can be no greater mistake than to suppose that Greek architecture was fettered by any fixed law of formal symmetry each detail, every feature, every object, such as a hall or temple, which could be considered as one complete and separate whole, was perfectly symmetrical and regular, but no two buildings no two apartments if for different purposes, were made to look like one On the contrary it is quite curious to observe what pains they took to arrange their buildings so as to produce variety and contrast, instead of formality or singleness of effect. Temples, when near one another, were never placed parallel, nor were even their propylaea and adjuncts ever so arranged as to be seen together or in one line The Egyptians, as before re-



147 Plan of Temple of Jupiter Olympius at Athens Scale 100 ft to 1 in



148 Plan of Erechtheium Scale 100 ft. to 1 in



149 Section of Erechtheium Scale 50 ft to 1 in

marked, had the same feeling but carried it into even the details of the same building, which the Greeks did not In this, indeed, as in almost every other artistic mode of expression, they seem to have hit exactly the happy medium, so as to produce the greatest harmony



View of Erechtheium.

with the greatest variety, and to satisfy the minutest scrutiny and the most refined taste, while their buildings produced an immediate and striking effect on even the most careless and casual beholders.

Temple of Diana at Ephesus.

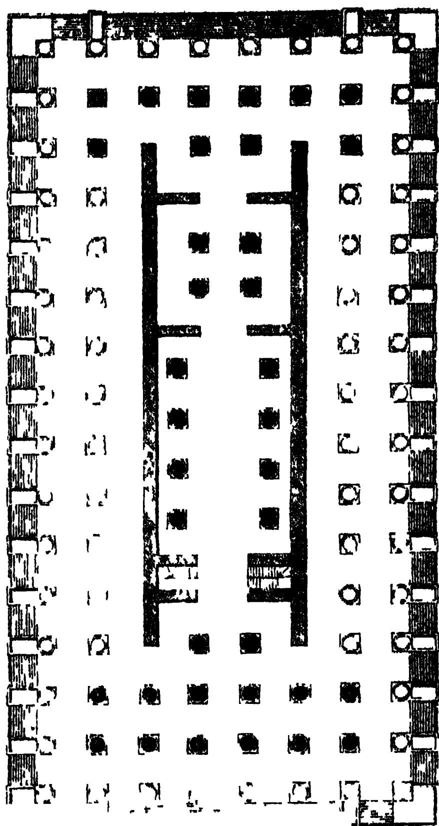
A history of Grecian architecture can hardly be considered as complete without some mention of the great Ephesian temple, which was the largest and most gorgeous of all those erected by the Greeks, and considered by them as one of the seven wonders of the world. Strange to say, however, not a vestige of it has come down to our days. We learn from Pliny,[1] that in order to avoid the danger anticipated from earthquakes, its founder chose a situation in a marsh, on which it was floated with infinite skill. But in vain. It has sunk—possibly entire, through the unstable soil on which it was placed, and its situation cannot now be discovered.[2]

Under these circumstances we are left wholly to the verbal description contained in the works of Pliny, Vitruvius, Philo, and others, and to the representations on coins and medals. These when fairly examined, however, suffice to enable us to restore the plan with almost absolute certainty; and when the plan is known, the appearance of a Greek Ionic temple can easily be conceived.

[1] Pliny, H. N. xxxvi. 21.

[2] My friend Mr. Wood, an architect resident at Smyrna, has for the last two years been searching and digging in vain; no trace of it has yet rewarded his persevering and intelligent explorations.

The principal passage in Pliny[1] is to this effect:—"The total length of the temple is 425 feet, the width 220. It has one hundred and twenty-seven columns given by different kings, and 60 feet in height, of these 36 are carved, one by Scopas."[2]



151. Restored Plan of the Temple of Diana at Ephesus. Scale 100 ft. to 1 in.

We further learn from Vitruvius,[3] and from various medals[4] representing it, that it was octastyle.

The great difficulty which these data present is to reconcile the number of 137 pillars with the known laws of Greek octastyle temples. It is felt to be impossible; and in consequence the last restorer[5] has suggested the introduction of a comma after "viginti," making it thus "120 columns, 7 given by different kings." It is, however, extremely improbable, that if only so small a number were given by different kings that it would have been noted, and even this extension still requires that the temple should be decastyle. The solution of the riddle as suggested by Dr. Guhl, lies in placing the comma after "centum," and the passage thus stands "100 columns, 27 of which were given by different kings."

With this adjustment the arrangement of the temple is easy. The columns were disposed as shown in the annexed plan, 25 ft. 7 inches apart from centre to centre. The columns, being 60 ft. in height, were probably 7 ft. 4 or 5 inches in diameter and the spacing was consequently eustyle—the most admired proportion or 2¼ diameter apart—and the square of the bases was probably 11 feet. The length therefore of the temple was made up of—

1 "Universo Templo longitudo est ccccxxv. pedum, latitudo ccxx. Columnæ centum viginti septem a singulis regibus factæ, lx. pedum altitudine: ex iis xxxvi. cælatæ, una a Scopa." — H. N. xxxvi. 14.

2 Pliny, loc. sup. cit.

3 Vitruvius, iii. 1.

4 Donaldson, 'Architectura Numismatica,' xi.

5 Falkener, 'Ephesus and the Temple of Diana,' p. 222.

		ft.	in.
15 intercolumniations, 25 ft. 7 in. × 15	=	383	7
Add for the two half bases beyond		11	
Add for the 10 steps on which it was raised 15 × 2 ...	=	30	
		424	7

The width was made up of —

7 intercolumniations of 25 ft. 7 in.	=	179	1
Add for 2 half bases		11	
Add for steps as above 15 × 2	=	30	
		220	1

Or, rejecting fractions, exactly the numbers required.

By using decimals the discrepancy of 6 inches might easily be made to disappear.

The 36 columns which were more ornamented than the rest were probably those shaded darker. The building, being octastyle, could not according to Vitruvius[1] be hypætral, but must have been lighted by an opaion or clerestory.

If of these dimensions the temple must have covered 93,500 feet, which is more than are occupied by Cologne, or any of our mediæval cathedrals except Milan. With columns 60 feet in height, designed as gracefully and ornamented as tastefully as we can well suppose a Greek temple of that age to have been, we need not be surprised if the Greeks did consider this temple a miracle of art. Though nothing of it now remains, even we can realise its dimensions and appearance sufficiently well to feel how just their verdict was, and how much we have lost by its disappearance.

MUNICIPAL ARCHITECTURE.

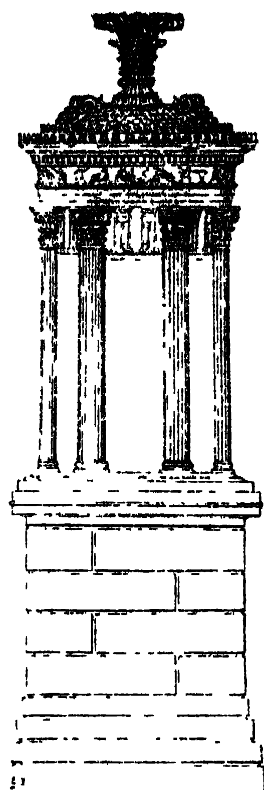
Very little now remains of all the various classes of municipal and domestic buildings which must once have covered the land of Greece, and from what we know of the exquisite feelings for art that pervaded that people they were certainly not less beautiful, though more ephemeral than the sacred buildings whose ruins still remain to us.

There are, however, two buildings in Athens which, though small, give us most exalted ideas of their taste in such matters. The first already alluded to, usually known as the Tower of the Winds, is a plain octagonal building about 45 ft. in height by 24 in width, ornamented by 2 small porches of 2 pillars each of the Corinthian order, the capitals of which are represented in woodcut No. 135. Its roof, like the rest of the building, is of white marble, and of simple but very elegant design, and below this is a frieze of 8 large figures, symbolical of the 8 winds, from which the tower takes its name, they in fact being the principal objects and ornaments of the building, the most important use of which appears to have been to contain a clepsydra or water-clock.

The other building, though smaller, is still more beautiful. It is

[1] Vitruvius iii. 2.

known as the Choragic Monument of Lysicrates, and consists of a square base 12 ft. high by 9 ft. wide, on which stands a circular temple adorned by 6 Corinthian columns, which, with their entablature, and the roof and pedestal they support, make up 22 ft. more, so that the whole height of the monument is only 34 ft. Notwithstanding these insignificant dimensions, the beauty of its columns (woodcut No. 134) and of their entablature, above all, the beauty of the roof, and of the finial ornament designed to complete the building, which is unrivalled for elegance even in Greek art, make up a composition so perfect that nothing in any other style or age can be said to surpass it. If this is a fair index of the art that was lavished on the smaller objects, the temples hardly give a just idea of all that have perished.



162. Choragic Monument of Lysicrates. No scale.

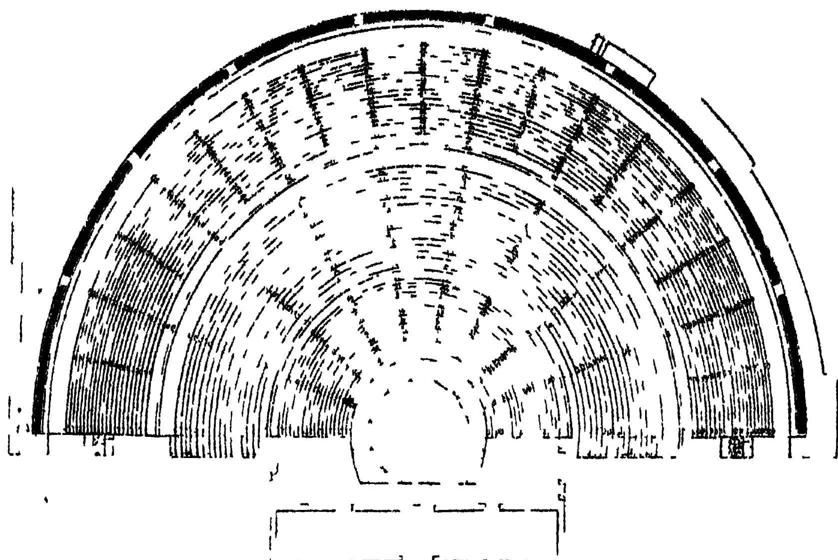
Theatres.

In extreme contrast with the buildings last described, which were among the smallest, came the theatres, which were the largest of the monuments the Greeks seem ever to have attempted.

The annexed plan of one at Dramyssus, the ancient Dodona, will give an idea of their forms and arrangements. Its dimensions may be said to be gigantic, being 443 ft. across, but even this, though perhaps the largest in Greece, is far surpassed by many in Asia Minor. What remains of it, however, is nearly the auditorium, and consists only of ranges of seats arranged in a semicircle, but without architectural ornament. In all the examples in Europe, the proscenium, which was the only part architecturally ornamented, has perished, so that, till we can restore this with something like certainty, the theatres hardly come within the class of Architecture as a fine art.

In Asia Minor some of the theatres have their proscenia adorned with niches and columns, and friezes of great richness, but all these belong to the Roman period, and though probably copies of the mode in which the Greeks ornamented theirs, are so corrupt in style as to prevent their being used with safety in attempting to restore the earlier examples.

Many circumstances would indeed induce us to believe that the

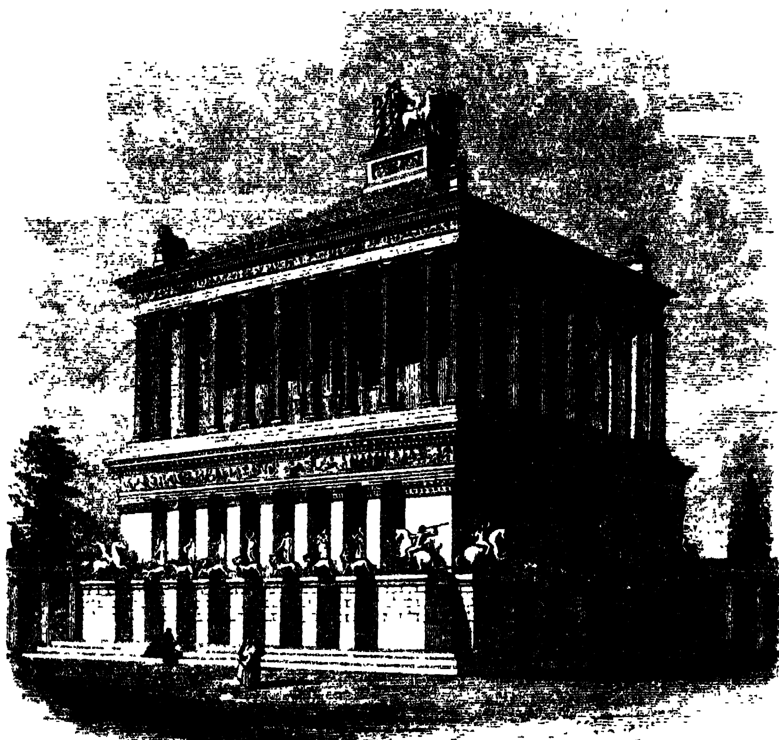


153. Plan of Theatre at Dionysus. Scale 100 ft. to 1 in.

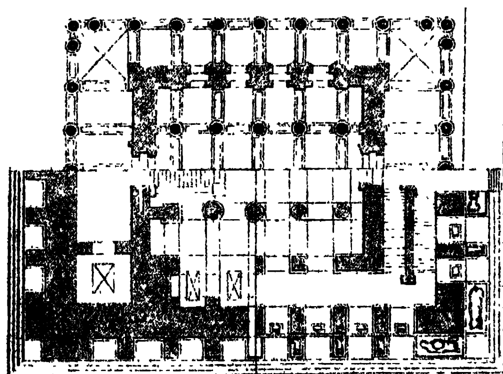
proscenia of the earlier theatres may have been of wood or bronze, or both combined and heightened by painting and carving to a great degree of richness. This, though appropriate and consonant with the origin and history of the drama, would be fatal to the expectation of anything being found to illustrate its earliest forms.

TOMBS.

Like the other Aryan races, the Greeks never were tomb builders, and nothing of any importance of this class is found in Greece, except the tombs of the early Pelasgic races, which were either tumuli, or treasuries, as they are popularly called. There are, it is true, some headstones and small pillars of great beauty, but they are monolithic, and belong rather to the department of sculpture than of architecture. In Asia Minor there are some important tombs, some built and others cut in the rock. Some of the latter have been described before in speaking of the tombs of the Lycians. The built examples which remain almost all belong to the Roman period, though the typical and by far the most splendid example of Greek tombs was that erected by Artemisia to the memory of her husband Mausolus at Halicarnassus. We scarcely know enough of the ethnic relations of the Carians to be able to understand what induced them to adopt so exceptional a mode of doing honour to their dead. With pure Greeks it must have been impossible, but the inhabitants of these coasts were of a different race, and had a different mode of expressing their feelings.



154. View of the Mausoleum at Halicarnassus, as restored by the Author.



155. Plan of the Mausoleum at Halicarnassus, from a Drawing by the Author. Scale 50 ft. to 1 in.

Till Mr. Newton's visit to Halicarnassus in 1856 the very site of this seventh wonder of the world was a matter of dispute. We now know enough to be able to restore the principal parts with absolute certainty, and to ascertain its dimensions and general appearance within very insignificant limits of error.[1]

The dimensions quoted by Pliny[2] are evidently extracted from a larger work said to have been written by the architect who erected it, and which existed at his time. Every one of them has been confirmed in the most satisfactory manner by recent discoveries, and enable us to put the whole together without much hesitation.

Sufficient remains of the quadriga, which crowned the monument, have been brought home to give its dimensions absolutely. All the parts of the Ionic order are complete. The steps of the pyramid have been found and portions of the three friezes, and these, with Pliny's dimensions and description, are all that are required to assure us that its aspect must have been very similar to the form represented in woodcut No. 154. There can be little doubt with regard to the upper storey, but in order to work out to the dimensions given by Pliny (411 ft. in circumference), and those found cut out in the rock (462 ft.), the lower storey must be spread out beyond the upper to the extent, and most probably something after the manner there shown.

The building consisted internally of two chambers superimposed the one on the other, each 52 ft. 6 in. by 42 ft.—the lower one being the vestibule to the tomb beyond—the upper was surrounded by a peristyle of 36 columns. Externally the height was divided into three equal portions of 37 ft. 6 in. each (25 cubits), one of which was allotted to the base one to the pyramid with its meta and one to the order between them. These with 14 ft. the height of the quadriga, and the same dimension belonging to the lower entablature, made up the height of 140 Greek feet[3] given it by Pliny.

Though its height was unusually great for a Greek building, its other dimensions were small. It covered only 13,230 feet. The admiration therefore which the Greeks expressed regarding it must have arisen first from the unusual nature of its design and of the purpose to which it was applied, or perhaps more still from the extent and richness of its sculptured decorations, of the beauty of which we are now enabled to judge, and can fully share with them in admiring.

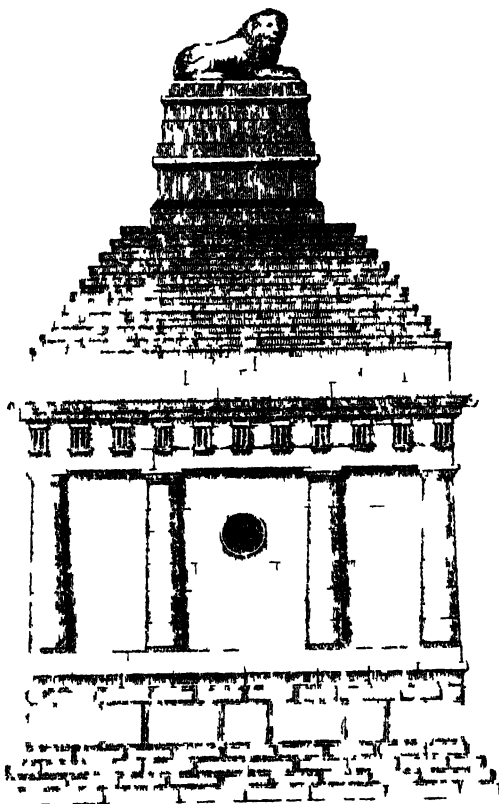
Another, but very much smaller, tomb of about the same age was

[1] It will not be necessary to enter here into all the details of this restoration. They will be found in a separate work published by me on the subject, to which the reader is referred.

[2] 'Hist. Nat.' xxxvi. v.

[3] The figures given in the text are all Greek feet: the difference between them and English feet being only 1¼ per cent., is hardly perceptible in these dimensions, without descending to minute fractions, and disturbing the comparison with Pliny's text.

found by Mr Newton at Cnidus, and known as the Lion Tomb, from the figure of that animal, now in the British Museum, which crowned its summit Like many other tombs found in Asia and in Africa, it follows the type of the Mausoleum in its more important features. It possesses a base a peristyle a pyramid of steps—and lastly, an acroterion or pedestal meant to support a quadriga or statue, or some other crowning object, which appropriately terminated the design upwards.



Lion Tomb at Cnidus. From Mr Newton.

Several examples erected during the Roman period will be illustrated when speaking of the architecture of that people, all bearing the impress of the influence the Mausoleum had on the tomb architecture of that age but unfortunately we cannot yet go backwards and point out the types from which the design of the Mausoleum itself was elaborated The tombs of Babylon and Passargadæ are remote both geographically and artistically, though not without certain essential resemblances Perhaps the missing links may some day reward the industry of some scientific explorer

Cyrene.

At Cyrene there is a large group of tombs of Grecian date and with Grecian details, but all cut in the rock, and consequently differ-



137. Rock cut and structural Tombs at Cyrene. (From Hamilton's 'Wanderings in North Africa.')

ing widely in their form from those just described. It is not clear whether the circumstance of this city possessing such a necropolis arose

from its proximity to Egypt, and consequently to a mere desire to imitate that people, or from some ethnic peculiarity. Most probably the latter, though we know so little about them that it is difficult to speak with precision on such a subject.[1]

These tombs are chiefly interesting from many of the details of the architecture still retaining the colour with which they were originally adorned. The triglyphs of the Doric order are still painted blue,[2] as appears to have been the universal practice, and the pillars are outlined by red lines. The metopes are darker, and are adorned with painted groups of figures. The whole making up one of the most perfect examples of Grecian coloured decoration which still remain.

There is another tomb at the same place—this time structural—which is interesting not so much for any architectural beauty it possesses as from its belonging to an exceptional type. It consists now



158. Tomb at Cyrene. From Hamilton's 'North Africa.'

only of a circular basement—the upper part is gone,—and is erected over an excavated rock-cut tomb. There seem to be several others of the same class in the necropolis, and are the only examples known

[1] The circumstance of Asoka, the Buddhist king of India, B.C. 250, having formed an alliance with Megas of Cyrene for the succour of his co-religionists in the dominions of the latter, points to such a conclusion, even if nothing else did. Journal Asiatic Society of Bengal, vii. p. 261; J. R. A. S. xii. p. 223 et seq.

[2] Beechey's 'Journey to Cyrene,' p. 444; see also Smith and Porcher, pl. 87.

except those at Marathos, one of which is illustrated above (woodcut No. 114). As before hinted, the Syrian example does not appear to be very ancient, but we want further information before speaking positively on this subject. No one on the spot has attempted to fix with precision the age of the Cyrenean examples; nor have they been drawn in such detail as is requisite for others to ascertain the fact. They may be as late as the time of the Romans, but can hardly date prior to the age of Alexander the Great.

DOMESTIC ARCHITECTURE.

We have nothing left but imperfect verbal descriptions of the domestic, and even of the palatial architecture of Greece, and, consequently, can only judge imperfectly of its forms. Unfortunately too, Pompeii, though but half a Greek city, belongs to too late and too corrupt an age to enable us to use it even as an illustration; but we may rest assured that in this, as in everything else, the Greeks displayed the same exquisite taste which pervades not only their monumental architecture, but all their works in metal or clay, down to the meanest object, which have been preserved to our times.

It is probable that the forms of their houses were much more irregular and picturesque than we are in the habit of supposing them to have been. They seem to have taken such pains in their temples—in the Erechtheium, for instance, and at Eleusis—to make every part tell its own tale, that anything like forced regularity must have been offensive to them, and they would probably make every apartment exactly of the dimensions required, and group them so that no one should under any circumstances be confounded with another.

This however, with all the details of their domestic arts, must now remain to us as mere speculation, and the architectural history of Greece must be confined to her temples and monumental erections. These suffice to explain the nature and forms of the art, and to assign to it the rank of the purest and most intellectual of all the styles which have yet been followed in any part of the world.

BOOK IV.

ETRUSCAN AND ROMAN ARCHITECTURE.

CHAPTER I.

ETRURIA.

CONTENTS.

Historical notice — Temples — Rock-cut tombs — Tombs at Castel d'Asso — Tumuli.

CHRONOLOGICAL MEMORANDA.

Migration from Asia Minor . .	about 12th cent. B.C.
Tomb of Porsenna .	about B.C. 500
Etruria becomes subject to Rome . .	" 330

THE ethnographical history of art in Italy is in all its essential features similar to that of Greece, though arriving at widely different results from causes the influence of which it is easy to trace. Both are examples of an Aryan development based on a Turanian civilization which it had superseded. In Greece — as already remarked — the traces of the earlier people are indistinct and difficult to seize. In Italy their features are drawn with a coarser hand, and extend down into a more essentially historical age. It thus happens that we have no doubt as to the existence of the Etruscan people — we know very nearly who they were, and cannot be mistaken as to the amount and kind of influence they exercised on the institutions and arts of the Romans.

The more striking differences appear to have arisen from the fact, that Greece had some four or five centuries of comparative repose during which to form herself and her institutions after the Pelasgic civilization was struck down at the time of the Dorian occupation of the Peloponnesus. During that period she was undisturbed by foreign invasion, and was not tempted by successful conquests to forsake the gentler social arts for the more vulgar objects of national ambition.

Rome's history, on the other hand, from the earliest aggregation of a robber horde on the banks of the Tiber till she became the arbiter of the destinies of the ancient world, is little beyond the record of continuous wars. From the possession of the seven hills, Rome gradually carried her sway at the edge of the sword to the dominion of the whole of Italy, and of all the then known world, destroying everything that stood in the way of her ambition, and seeking only the acquisition of wealth and power.

Greece, in the midst of her successful cultivation of the arts of commerce and of peace, stimulated by the wholesome rivalry of the different states of which she was composed, was awakened by the Persian invasion to a struggle for existence. The result was one of the most brilliant passages in the world's history, and no nation was ever more justified in the jubilant outburst of enthusiastic patriotism that followed the repulse of the invader, than was Greece in that with which she commenced her short but brilliant career. A triumph so gained by a people so constituted led to results at which we still wonder, though they cause us no surprise. If Greece attained her manhood on the battlefields of Marathon and Salamis, Rome equally reached the maturity of her career when she cruelly and criminally destroyed Corinth and Carthage, and the sequel was such as might be expected from such a difference of education. Rome had no time for the cultivation of the arts of peace, and as little sympathy for their gentler influences. Conquest, wealth, and consequent power were the objects of her ambition—for these she sacrificed everything, and by their means she attained a pinnacle of greatness that no nation had reached before or has since. Her arts have all the impress of this greatness, and are characterised by the same vulgar grandeur which marks everything she did. Very different they are from the intellectual beauty found in the works of the Greeks, but in some sense they are as interesting to those who can read the character of nations in these artistic productions.

In the early part of her career Rome was an Etruscan city under Etruscan kings and institutions. After she had emancipated herself from their yoke, Etruria long remained her equal and her rival in political power, and her instructress in religion and the arts of peace. This continued so long, and the architectural remains of that people are so numerous, and have been so thoroughly investigated, that we have no difficulty in ascertaining the extent of influence the older nation had on the nascent empire. It is more difficult to ascertain exactly who the Etruscans themselves were, or whence they came. But on the whole there seems every reason to believe they migrated from Asia Minor some twelve or thirteen centuries before the Christian era, and fixed themselves in Italy, most probably among the Umbrians, or some people of similar race, who had settled there before—so long before,

perhaps, as to entitle them to be considered among the aboriginal inhabitants.

It would have been only natural that the expatriated Trojans should have sought refuge among such a kindred people, though we have nothing but the vaguest tradition to warrant a belief that this was the case. They may too from time to time have received other accessions to their strength, but they were a foreign people in a strange land, and scarcely seem ever to have become naturalised in the country of their adoption. But what stood still more in their way was the fact that they were an old Turanian people in presence of a young and ambitious community of Aryan origin, and, as has always been the case when this has happened, they were destined to disappear. Before doing so, however, they left their impress on the institutions and the arts of their conquerors to such an extent as to be still traceable in every form. It may have been that there was as much Pelasgic blood in the veins of the Greeks as there was Etruscan in those of the Romans; but the civilization of the former had passed away before Greece had developed herself. Etruria, on the other hand, was long contemporary with Rome: in early times her equal, and sometimes her mistress, and consequently in a position to force her arts upon her to an extent that was never effected on the opposite shore of the Adriatic.

Temples.

Nothing can prove more clearly the Turanian origin of the Etruscans than the fact that all we know of them is derived from their tombs. These exist in hundreds—it may almost be said in thousands—at the gates of every city, but no vestige of a temple has come down to our days. Had any Semitic blood flowed in their veins, as has been sometimes suspected they could not have been so essentially sepulchral as they were, or so fond of contemplating death, as is proved by the fact that a purely Semitic tomb is still a desideratum among antiquaries, not one having as yet been discovered. What we should like to find in Etruria would be a square pyramidal mound with external steps leading to a cella on its summit, but no trace of any such has yet been detected. Their other temples—using the word in the sense in which we usually understand it—were, as might be expected, insignificant and ephemeral. So much so, indeed, that except from one passage in Vitruvius,[1] and our being able to detect the influence of the Etruscan style in the buildings of imperial Rome, we should hardly detect their existence there. The truth seems to be that the religion of the Etruscans, like that of most of their congeners, was essentially ancestral, and their worship took the form of respect for the

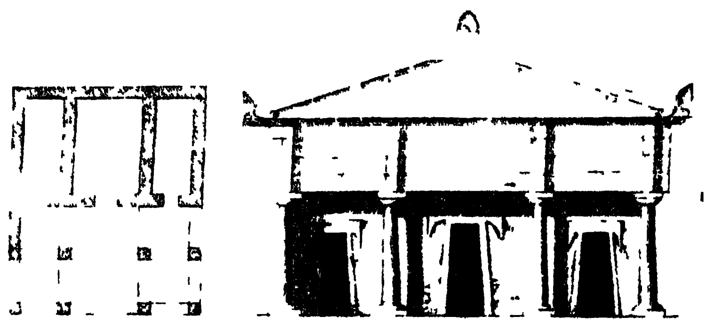
[1] Vitruvius, iv. 7.

remains of the dead and reverence for their memory. Tombs consequently, and not temples, were the objects on which they lavished their architectural resources. They certainly were not idolaters, in the sense in which we usually understand the term. They had no distinct or privileged priesthood, and consequently had no motive for erecting temples which by their magnificence should be pleasing to their gods, or tend to the glorification of their kings or priests. Still less were they required for congregational purposes by the people at large.

The only individual temple of Etruscan origin of which we have any knowledge, is that of Capitoline Jupiter at Rome.[1] Originally small, it was repaired and rebuilt till it became under the Empire a splendid fane. But not one vestige of it now remains, nor does any description from which we could restore its appearance with anything like certainty.

From the chapter of the work of Vitruvius just alluded to, we learn that the Etruscans had two classes of temples, one circular like their structural tombs, and dedicated to one deity; the other class rectangular, but these always possessing three cells, were devoted to the worship of three gods.

The general arrangement of the plan, as described by Vitruvius was that shown on the plan below (Fig. 1), and is generally assented to by



Plan and Section of an Etruscan Temple.

all those who have attempted the restoration. In larger temples in Roman times the number of pillars in front may have been doubled, and they would thus be arranged like those of the portico of the Pantheon which is essentially an Etruscan arrangement. The restoration of the elevation is more difficult, and the argument too long to be entered upon here;[2] but its construction and proportions seem to have been very much like those drawn in the above diagram (Fig. 2). Of course, as wooden structures, they were richly and elaborately carved, and the effect heightened by colours, but it is in vain to attempt

[1] Dionysius, iv. 61.
[2] For more detail see 'True Principles of Beauty in Art,' p. 446 et seq.

to restore them. Without a single example to guide us, and with very little collateral evidence which can at all be depended upon, it is hardly possible that any satisfactory restoration could be made. Moreover, their importance in the history of art is so insignificant, that the labour such an attempt must involve would hardly be repaid by the result.

The original Etruscan circular temple seems to have been a mere circular cell with a porch. The Romans surrounded it with a peristyle, which probably did not exist in the original style. They magnified it afterwards into the most characteristic and splendid of all their temples, the Pantheon, whose portico is Etruscan in arrangement and design and whose cell still more distinctly belongs to that order; nor can there be any doubt that the simpler Roman temples of circular form are derived from Etruscan originals. It would therefore be of great importance if we could illustrate the later buildings from existing remains of the older; but the fact is that such deductions as we may draw from the copies are our only source of information respecting the originals.

We know little of any of the civil buildings with which the cities of Etruria were adorned beyond the knowledge obtained from the remains of their theatres and amphitheatres. The form of the latter was essentially Etruscan, and was adopted by the Romans, with whom it became their most characteristic and grandest architectural object. Of the amphitheatres of ancient Etruria only one now remains in so perfect a state as to enable us to judge of their forms. It is that at Sutri, which, however, being entirely cut in the rock, neither affords information as to the mode of construction nor enables us to determine its age. The general dimensions are 295 ft. in its greatest length by 265 in breadth, and is consequently much nearer a circular form than the Romans generally adopted; but in other respects the arrangements are such as appear to have usually prevailed in after times.

Besides these we have numerous works of utility, but these belong more strictly to engineering than to architectural science. The city walls of the Etruscans surpass those of any other ancient nation in extent and beauty of workmanship. Their draining works and their bridges, as well as those of the kindred Pelasgians in Greece, still remain monuments of their industrial science and skill, which their successors never surpassed.

On the whole, perhaps we are justified in asserting that the Etruscans were not an architectural people, and had no temples or palaces worthy of attention. It at least seems certain that nothing of the sort is now to be found even in ruins; and, were it not that the study of Etruscan art is a necessary introduction to that of Rome, it would hardly be worth while trying to gather together and illustrate the few fragments and notices of it that remain.

TOMBS.

The tombs of the Etruscans now found may be divided into two classes:— First, those cut in the rock, and resembling dwelling-houses; secondly, the circular tumuli, which latter are by far the most numerous and important class.

Each of these may be again subdivided into two kinds. The rock cut tombs include, firstly, those with only a façade on the face of the rock, and a sepulchral chamber within; secondly, those cut quite out of the rock, and standing free all round. To this class probably once belonged an immense number of tombs built in the ordinary way; but all these have totally disappeared, and consequently the class, as now under consideration, consists entirely of excavated examples.

The second class may be divided into those tumuli erected over chambers cut in the tufaceous rock which is found all over Etruria, and those which have chambers built above ground.

In the present state of our knowledge it is impossible to say which of these classes is the older. We know that the Egyptians buried in caves long before the Etruscans landed in Italy, and at the same time raised pyramids over rock-cut and built chambers. We know too that Abraham was buried in the cave of Machpelah in Syria. On the other hand, the tombs at Smyrna (woodcut No. 105), the treasuries of Mycenæ, (woodcut No. 116), the sepulchre of Alyattes, (woodcut No. 107), and many others, are proofs of the antiquity of the tumuli, which are found all over Europe and Asia, and appear to have existed from the earliest ages.

The comparative antiquity of the different kinds of tombs being thus doubtful, it will be sufficient for the purposes of the present work to classify them architecturally. It may probably be assumed, with safety, that all the modes which have been enumerated were practised by the Etruscans at a period very slightly subsequent to their migration into Italy.

Of the first class of the rock cut tombs—those with merely a façade externally—the most remarkable group is that at Castle d'Asso. At this place there is a perpendicular cliff with hundreds of these tombs ranged along its face, like houses in a street. A similar arrangement is found in Egypt at Beni Hassan, at Petra, and Cyrene, and around all the more ancient cities of Asia Minor.

In Etruria they generally consist of one chamber lighted by the doorway only. Their internal arrangement appears to be an imitation of a dwelling chamber, with furniture, like the apartment itself, cut out of the rock. Externally they have little or no pretension to architectural decoration. It is true that some tombs are found adorned with frontispieces of a debased Doric or Ionic order; but these were executed at a much later period, and under Roman domination, and

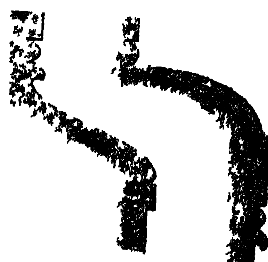
cannot therefore be taken as specimens of Etruscan art, but rather of that corruption of style sure to arise from a conquered people, trying to imitate the arts of their rulers.

The general appearance of the second class of rock-cut tombs will be understood from the woodcut (No 160), representing two monuments at Castel d'Asso Unfortunately neither is complete, nor is there any complete example known to exist of this class. Perhaps the apex was added structurally, and that these, like all such things in Etruria, have perished Possibly if cut in the rock, the terminals were slender carved ornaments and therefore liable to injury. They are usually restored by antiquaries in the shape of rectilinear pyramids, but there is no authority for this as far as I know On the contrary it is more in accordance with what we know of the style and its affinities to suppose that the termination of these monuments, even if added in masonry, was curvilinear



160 *Tombs at Castel d'Asso From the Annal del Instituto*

One remarkable thing about the rock cut tombs is the form of their mouldings, which differ from any found elsewhere in Europe Two of these are shown in the annexed woodcut (No 161) They are very numerous and in great variety, but do not in any instance show the slightest trace of a cornice, nor of any tendency to one. On the contrary, in place of this, we find nothing but a reverse moulding. It is probable that similar forms may be found in Asia Minor, while something resembling them actually occurs at Persepolis and elsewhere. It is remarkable that this feature did not penetrate to Rome, and that no trace of its influence is found there, as might have been expected.[1]



161 Mouldings from Tombs at Castel d'Asso

[1] Even in more modern times I know of no building showing a trace of these forms except the tomb of Theodoric at Ravenna. This, however, is Etruscan both in form and detail, as will be seen further on.

Tumuli.

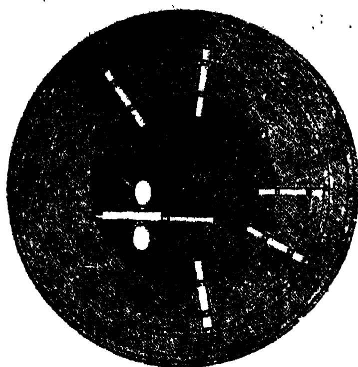
The simplest and therefore perhaps the earliest monument which can be erected, by a people who reverence their departed relatives, over the graves of the dead, is a mound of earth or a cairn of stones, and such seems to have been the form adopted by the Turanian or Tartar races of mankind from the earliest days to the present hour. It is scarcely necessary to remark how universal such monuments were among the ruder tribes of Northern Europe. The Etruscans improved upon this by surrounding the base with a *podium*, or supporting wall of masonry. This not only defined its limits and gave it dignity, but enabled entrances to be made in it, and otherwise converted it from a mere hillock into a monumental structure. It is usually supposed that this basement was an invariable part of all Etruscan tumuli, and when it is not found it is assumed that it has been removed, or that it is buried in the rubbish of the mound. No doubt such a stone basement may easily have been removed by the peasantry, or buried, but it is by no means clear that this was invariably the case. It seems that the enclosure was frequently a circle of stones or monumental steles, in the centre of which the tumulus stood. The monuments have hitherto been so carelessly examined and restored, that it is difficult to arrive at anything like certainty with regard to the details of their structure. Nor can we draw any certain conclusion from a comparison with other tumuli of cognate races. The description by Herodotus of the tomb of Alyattes at Sardis (woodcut No. 107), those described by Pausanias as existing in the Peloponnesus, and the appearances of those at Mycenæ and Orchomenus might be interpreted either way, but those at Smyrna (woodcut No. 105), and a great number at least of those in Etruria, have the circle of stones as a supporting base to the mound.

These tumuli are found existing in immense numbers in every necropolis of Etruria. A large space was generally set apart for the purpose outside the walls of all the great cities. In these cemeteries the tumuli are arranged in rows, like houses in streets. Even now we can count them by hundreds, and in the neighbourhood of the largest cities — at Vulci, for instance — almost by thousands.

Most of them are now worn down by the effect of time to nearly the level of the ground, though some of the larger ones still retain an imposing appearance. Nearly all have been rifled at some early period, though the treasures still discovered almost daily in some places show how vast their extent was, and how much even now remains to be done before this vast mine of antiquity can be said to be exhausted.

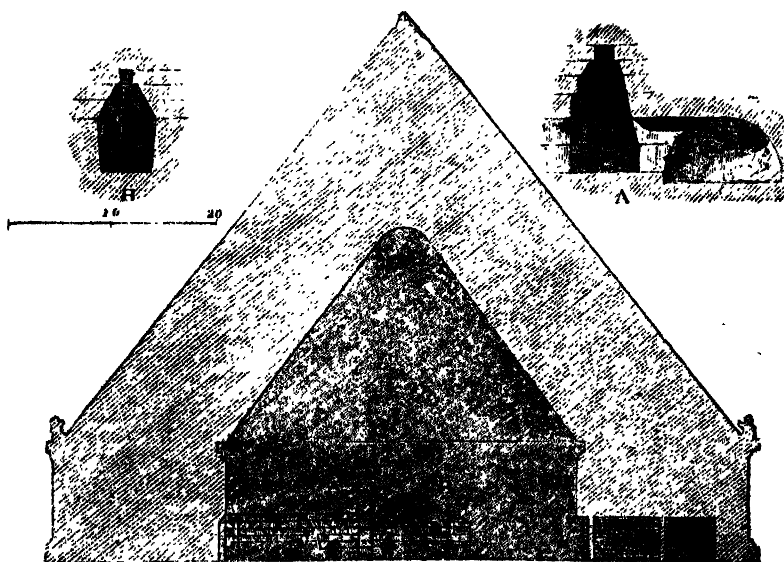
One of the most remarkable among those that have been opened in modern times is at Cervetere, the ancient Cære, known as the Regulini Galeassi tomb, from the names of its discoverers.

Like a Nubian pyramid or Buddhist tope, it consists of an inner and older tumulus, around and over which another has been added. In the outer mound are 5 tombs either of dependent or inferior personages. These were rifled long ago; but the outer pyramid having effectually concealed the entrance to the principal tomb, it remained untouched till very lately, when it yielded to its discoverers a richer collection of ornaments and utensils in gold and bronze than has ever been found in one place before.



Plan of Regulini Galeassi Tomb. Scale 100 ft. to 1 in.

The dimensions and arrangements of this tumulus will be understood from woodcuts Nos. 162, 163, and from the two sections of the



163. Sections of Regulini Galeassi Tomb. From Canina's Etruria Antica. Scale for large section, 50 ft. to 1 in.

principal tomb which are annexed to them. These last display an irregularity of construction very unusual in such cases, for which no cause can be assigned. The usual section is perfectly regular, as in the annexed woodcut (No. 164), taken from another tomb at the same place.

These chambers, like all those of the early Etruscans, are vaulted

on the horizontal principle, like the tombs at Mycenæ and Orchomenus, though none are found in Italy at all equal to those of Greece in dimensions or beauty of construction.

Woodcut No. 165 is a perspective view of the principal chamber in the Regulini Galeassi tomb, showing the position of the furniture found in it when first opened, consisting of biers or bedsteads, shields, arrows, and vessels of various sorts. A number of vases are hung in a curious recess in the roof, the form of which would be inexplicable but for the utensils found in it. With this clue to its meaning we can scarcely doubt that it represents a place for hanging such vessels in the houses of the living.



164. Section of a Tomb at Cære. No scale.

All the treasures found in this tomb are in the oldest style of Etruscan art, and are so similar to the bronzes and ornaments brought by Layard from Assyria as to lead to the belief that they had a common origin. The tomb, with its contents, probably dates from the 9th or 10th century before the Christian era.



165. View of principal Chamber in Regulini Galeassi Tomb.

The largest tomb hitherto discovered in Etruria is now known as the Cucumella, in the necropolis at Vulci. It is rather more than 240 ft. in diameter, and originally could not have been less than 115 or 120 ft. in height, though now it only rises to 50 ft.

Near its centre are the remains of two solid towers, one circular, the other square, neither of them actually central, nor are they placed in such a way that we can understand how they can have formed a part of any symmetrical design. A plan and a view of the present appearance of this monument are given in the woodcuts, Nos. 166 and 167.

This tumulus, with its principal remaining features thus standing on one side of the centre, may possibly assist us to understand the curious

description found in Pliny[1] of the tomb of Porsenna. This description is quoted from Varro, being evidently regarded by Pliny himself as not a little apocryphal. According to this account it consisted of a square basement 300 ft. each way, from which arose 5 pyramids, united at the summit by a bronze circle or cupola. This was again surmounted by 4 other pyramids, the summits of which were again united at a height of 300 ft. from the ground. From this point rose still 5 more pyramids, whose height Varro (from modesty, as Pliny surmises) omits to state, but which was estimated in Etruscan traditions at the same height as the rest of the monument. This last statement, which does not rest on any real authority, may well be regarded as exaggerated; but if we take the total height as about 400 ft., it is easy to understand that in the age of Pliny, when all the buildings were low, such a structure, as high as the steeple at Salisbury, would appear fabulous, but the vast piles that have been erected by tomb-building races in other parts of the earth render it by no means improbable that Varro was justified in what he asserted.[2]



166. Plan of Cucumella, Vulci. Scale 100 ft. to 1 in.



167. View of Cucumella, Vulci.

Near the gate of Albano is found a small tomb of 5 pyramidal pillars rising from a square base, exactly corresponding with Varro's description of the lower part of the tomb of Porsenna. It is called by

[1] Plin. Hist. xxxvi. 13.

[2] A diagram is given in the 'True Principles of Beauty in Art,' p. 459, which shows at least that there is no difficulty in designing a monument in perfect accordance with the text. Whether the latter is to be depended upon or not is another matter.

tradition the tomb of Aruns, the son of Porsenna, though the character of the mouldings with which it is adorned would lead us to assign to it a more modern date. It consists of a lofty podium, on which are placed 5 pyramids, a large one in the centre and 4 smaller ones at the angles. Its present appearance is shown in the annexed woodcut (No. 168).

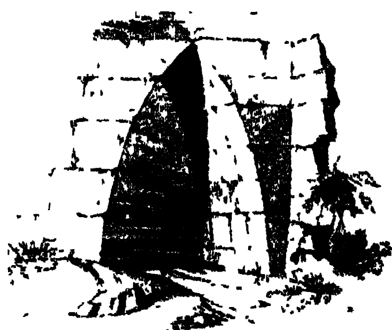


Scale 50 ft. to 1 in.

Tomb of Aruns, Albano.

There are not in Etruria any features sufficiently marked to characterise a style of architecture, nor any pillars with their accessories which can be considered to constitute an order. It is true that in some of the rock-cut tombs square piers support the roof, and in one or two instances rounded pillars are found, but these are either without mouldings or ornamented only with Roman details, betraying the lateness of their execution. The absence of built examples of the class of tombs found in the rock prevents us from recognising any of those peculiarities of construction which sometimes are as characteristic of the style and as worthy of attention as the more purely ornamental parts.

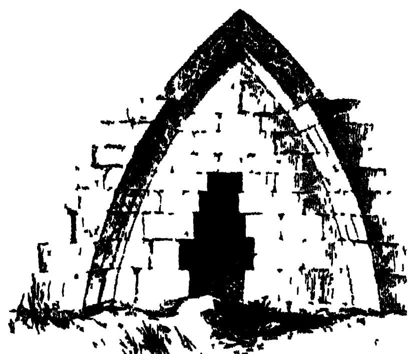
From their city gates, their aqueducts and bridges, we know that the Etruscans used the radiating arch, with deep voussoirs and elegant mouldings, at an early age, giving it that character of strength which the Romans afterwards imparted to their works of the same class. The Cloaca Maxima of Rome (woodcut No. 95) must be considered as a work executed under Etruscan superintendence, and a very perfect specimen of the class.



Gateway at Arpino.

At the same time the Etruscans used the pointed arch, constructed horizontally, and seem to have had the same predilection for it which characterised the cognate Pelasgian race in Greece. A gateway at Arpino (woodcut No. 169) is almost identical with that at Thoricus (woodcut No. 118), but larger and more elegant; and there are many specimens of the same class found in Italy. The portion of an aqueduct at Tusculum, shown in woodcut No. 170, is a curious transition speci-

men, where the two stones meeting at the apex (usually called the Egyptian form, being the first step towards the true arch) are combined with a substructure of horizontal converging masonry.



170 Aqueduct at Tusculum

In either of these instances the horizontal arch is a legitimate mode of construction, and may have been used long after the principle of the radiating arch was known. The great convenience of the latter, as enabling large spaces to be spanned even with brick or the smallest stones, and thus dispensing with the necessity for stones of very large dimensions, led ultimately to its universal adoption. Subsequently, when the pointed form of the radiating arch was introduced, no motive remained for the retention of the horizontal method, and it was entirely abandoned.

CHAPTER II.

ROME.

INTRODUCTION

We now approach the last revolution that completed and closed the great cycle of the arts and civilization of the ancient world. We have seen Art spring Minerva like perfect from the head of her great parent, in Egypt. We have admired it in Assyria, rich, varied, but unstable; aiming at everything, but never attaining maturity or perfection. We have tried to trace the threads of early Pelasgic art in Asia, Greece, and Etruria, spreading their influence over the world, and laying the foundation of other arts which the Pelasgi were incapable of developing. We have seen all these elements gathered together in Greece, the essence extracted from each, and the whole forming the most perfect and beautiful combinations of intellectual power that the world has yet witnessed. We have now only to contemplate the last act in the great drama, the gorgeous but melancholy catastrophe by which all these styles of architecture were collected in wild confusion in Rome, and there perished beneath the luxury and crimes of that mighty people, who for a while made Rome the capital of Europe.

View them as we will, the arts of Rome were never an indigenous or natural production of the soil or people, but an aggregation of foreign styles in a state of transition from the old and time honoured forms of Pagan antiquity to the new development of the Christian era. We cannot of course suppose that the Romans foresaw the result to which their amalgamation of previous styles was tending, still they advanced as steadily towards that result as if a prophetic spirit had guided them to a well defined conception of what was to be. It was not however permitted to the Romans to complete this task. Long before the ancient methods and ideas had been completely moulded into the new, the power of Rome sank beneath her corruption, and a long pause took place, during which the Christian arts did not advance beyond the point they had reached in the age of Constantine. Indeed in many respects they receded from it during the dark ages. When they reappeared in the 10th and 11th centuries it was in an entirely new garb, and with scarcely a trace of their origin—so distinct indeed that it appears more like a reinvention than a reproduction of forms long

since familiar to the Roman world. Had Rome retained her power and pre-eminence a century or two longer, a style might have been elaborated as distinct from that of the ancient world, and as complete in itself, as our pointed Gothic, and perhaps more beautiful. Such was not the destiny of the world; and what we have now to do is to examine this transition style as we find it in ancient Rome, and familiarise ourselves with the forms it took during the three centuries of its existence, as without this knowledge all the arts of the Gothic era would for ever remain an inexplicable mystery. The chief value of the Roman style consists in the fact that it contains the germs of all that is found in the middle ages, and affords the key by which its mysteries may be unlocked, and its treasures rendered available. Had the transition been carried through in the hands of an art loving and artistic people, the architectural beauties of Rome must have surpassed those of any other city in the world, for its buildings surpass in scale those of Egypt, and in variety those of Greece, while they affect to combine the beauties of both. In constructive ingenuity they far surpass anything the world had seen up to that time, but this cannot redeem offences against good taste, nor enable any Roman productions to command our admiration as works of art, or entitle them to rank as models to be followed either literally or in spirit.

During the first two centuries and a half of her existence, Rome was virtually an Etruscan city, wholly under Etruscan influence; and during that period we read of temples and palaces being built, and of works of immense magnitude being undertaken for the embellishment of the city; and we have even now more remains of kingly than we have of consular Rome.

After expelling her kings, and shaking off Etruscan influence, Rome existed as a republic for five centuries, and during this long [illegible] of barbarism she did nothing to advance science. Literature was almost wholly unknown within her walls, and not one monument has come down to our time, even by tradition, worthy of a city of a tenth part of her power and magnitude. There is probably no instance in the history of the world of a capital city existing so long, populous and peaceful at home, prosperous and powerful abroad, and at the same time so utterly devoid of any monuments or any magnificence to dignify her existence.

When, however, Carthage was conquered and destroyed, when Greece was overrun and plundered, and Egypt, with her long-treasured art, had become a dependent province, Rome was no longer the city of the Romans, but the sole capital of the civilised world. Into her lap were poured all the artistic riches of the universe; to Rome flocked all who sought a higher distinction or a more extended field for their ambition than their own provincial capitals could then afford. She thus became the centre of all the arts and of all the science then known;

and so far at least as quantity is concerned, she amply redeemed her previous neglect of them. It seems an almost indisputable fact, that during the three centuries of the Empire more and larger buildings were erected in Rome and her dependent cities than ever were erected in a like period in any part of the world.

For centuries before the establishment of the Roman Empire, progressive development and increasing population, joined to comparative peace and security, had accumulated around the shores of the Mediterranean a mass of people enjoying material prosperity greater than had ever been known before. All this culminated in the first centuries of the Christian era. The greatness of the ancient world was then full, and a more overwhelming and gorgeous spectacle than the Roman empire then displayed never dazzled the eyes of mankind. From the banks of the Euphrates to those of the Tagus, every city vied with its neighbour in the erection of temples, baths, theatres, and edifices for public use or private luxury. In all cases these display far more evidence of wealth and power than of taste and refinement, and all exhibit traces of that haste to enjoy, which seems incompatible with the correct elaboration of anything that is to be truly great. Notwithstanding all this, there is a greatness in the mass, a grandeur in the conception, and a certain expression of power in all these Roman remains which never fail to strike the beholder with awe, and force admiration from him despite his better judgment. These qualities, coupled with the associations that attach themselves to every brick and every stone, render the study of them irresistibly attractive. It was with imperial Rome that the ancient world perished: it was in her dominions that the new and Christian world was born. All that was great in Heathendom was gathered within her walls, tied, it is true, into an inextricable knot, which was cut by the sword of those barbarians, who moulded for themselves out of the fragments that polity and those arts which will next occupy our attention. To Rome all previous history tends: from Rome all modern history springs: to her therefore, and to her arts, we inevitably turn, if not to admire, at least to learn, and, if not to imitate, at any rate to wonder at, and to contemplate a phase of art as unknown to previous as to subsequent history, and, if properly understood, more replete with instruction than any other form hitherto known. Though the lesson we learn from it is far oftener what to avoid than what to follow, still there is such wisdom to be gathered from it as should guide us in the onward path, which may lead us to a far higher grade than it was given to Rome herself ever to attain.

CHAPTER III.

ROMAN ARCHITECTURE.

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CHRONOLOGICAL MEMORANDA.

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Temple of Jupiter Capitolinus dedicated	507	Trajan—Ulpian Basilica and Pillar of Victory	98
Scipio—tomb at Literium	184	Hadrian builds temples at Rome, temple of Jupiter Olympius at Athens, &c.	117
Augustus—temples at Rome	31	Septimius Severus—arch at Rome	194
Marcellus—theatre at Rome—died	23	Caracalla—baths	211
Agrippa—portico of Pantheon—died	13	Diocletian—palace at Spalatro	284
Nero—burning and rebuilding of Rome—died	A.D. 64	Maxentius—Basilica at Rome	306
Vespasian—Flavian Amphitheatre built	70	Constantine—transfer of Empire to Constantinople	328

The earliest inhabitants of Rome were an Aryan, or as they used to be called, Indo-Germanic race who established themselves in a country previously occupied by Pelasgians. Their principal neighbour on one side was Etruria, a Pelasgian nation. On the other hand was Magna Græcia, which had been colonised in very early ages by Hellenic settlers of kindred origin. It was therefore impossible that the architecture of the Romans should not be in fact a mixture of the styles of these two people. As a transition order, it was only a mechanical juxtaposition of both styles, the real fusion taking place many long centuries afterwards. Throughout the Roman period the two styles remain distinct, and there is no great difficulty in referring almost every feature in Roman architecture to its origin.

From the Greeks were borrowed the rectangular peristylar temple, with its columns and horizontal architraves, though they seldom if ever used it in its perfect purity, the cella of the Greek temples not being sufficiently large for their purposes. The principal Etruscan temples, as we have already shown, were square in plan, and the inner half occupied by one or more cells, to the sides and back of which the portico never extended. The Roman rectangular temple is a mixture of these two; it is generally, like the Greek examples, longer than its breadth, but the colonnade never seems to have entirely surrounded the building. Sometimes it extends to the two sides as well as the front,

but more generally the cella occupies the whole of the inner part, though frequently ornamented by a false peristyle of three-quarter columns attached to its walls.

Besides this, the Romans borrowed from the Etruscans a circular form of temple unknown to the Greeks, but which to their tomb-building predecessors must have been not only a familiar but a favourite form. As applied by the Romans it was generally encircled by a peristyle of columns, though it is not clear that the Etruscans so used it; this may therefore be an improvement adopted from the Greeks on an Etruscan form. In early times these circular temples were dedicated to Vesta, Cybele, or some god or goddess either unknown or not generally worshipped by the Aryan races; but in latter times this distinction was lost sight of.

A more important characteristic which the Romans borrowed from the Etruscans was the circular arch. It was known, it is true, to the Egyptians, Assyrians, and Greeks; yet none of these people, perhaps excepting the Assyrians, seem to have used it as a feature in their ornamental architecture; but the Etruscans appear to have had a peculiar predilection for it, and from them the Romans adopted it boldly, and introduced it into almost all their buildings. It was not at first used in temples of Grecian form, nor even in their peristylar circular ones. In the civil buildings of the Romans it was a universal feature, but was generally placed in juxtaposition with the Grecian orders. In the Colosseum, for instance, the whole construction is arched; but a useless network of ill-designed and ill-arranged Grecian columns, with their entablatures, is spread over the whole. This is a curious instance of the mixture of the two styles, and as such is very characteristic of Roman art; but in an artistic point of view the place of these columns would have been far better supplied by buttresses or panels, or some expedient more correctly constructive.

After having thoroughly familiarised themselves with the forms of the arch as an architectural feature, the Romans made a bold stride in advance by applying it as a vault both to the circular and rectangular forms of buildings. The most perfect examples of this are the Basilica of Maxentius, commonly called the Temple of Peace, and the Rotunda of the Pantheon, the two being, probably, not far distant in date. In these buildings the Roman architects so completely emancipated themselves from the trammels of former styles as almost to entitle them to claim the invention of a new order of architecture. It would have required some more practice to invent details appropriate to the purpose, still these two buildings are to this hour unsurpassed for boldness of conception and just appreciation of the manner in which the new method ought to be applied. This is almost universally acknowledged so far as the interior of the Pantheon is concerned. In simple grandeur it is as yet unequalled; its faults being principally those of detail. It is

not so easy, however, to form an opinion of the Temple of Peace in its present ruined state; but in so far as we can judge from what yet remains of it, in boldness and majesty of conception it must have been quite equal to the other example, though it must have required far more familiarity with the style adopted to manage its design as appropriately as the simpler dome of the Pantheon.

Those two buildings may be considered as exemplifying the extent to which the Romans had progressed in the invention of a new style of architecture, and the state in which they left it to their successors. It is worth remarking how, in transplanting Roman architecture to the new capital, the semi Oriental nation seized on its own circular form, and, modifying and moulding it to its purpose, wrought out the Byzantine style; in which the dome is the great feature, almost to the total exclusion of the rectangular form with its intersecting vaults. On the other hand, the rectangular form was appropriated by the Teutonic nations of the West with an equally distinct rejection of the circular and domical forms, except in those cases in which we find an Eastern people still incorporated with them. Thus in Italy both styles continued long in use, the one in baptisteries, the other in churches, but always kept distinct as in Rome. In France they were so completely fused into each other that it requires considerable knowledge of architectural analysis to separate them again into their component parts. In England we rejected the circular form altogether, and so they did eventually in Germany, except when under French influence. Each race reclaimed its own among the spoils of Rome, and used it with the improvements it had acquired during its employment in the imperial city.

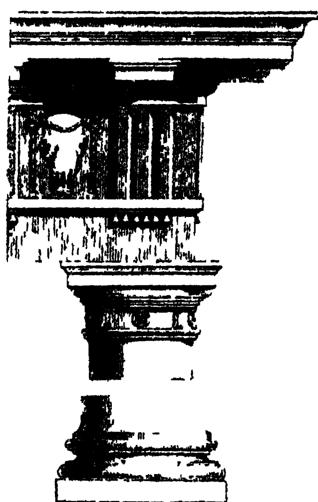
Orders.

The first thing that strikes the student in attempting to classify the numerous examples of Roman architecture is the immense variety of purposes to which it is applied, as compared with previous styles. In Egypt architecture was applied only in palaces and tombs. In Greece it was almost wholly confined to temples and theatres; and in Etruria to tombs. It is in Rome that we first feel that we have not to deal with either a Theocracy or a kingdom, but with a great people, who for the first time in the world's history rendered architecture subservient to the myriad wants of the many-headed monster. It thus happens that in the Roman cities, in addition to temples, we find basilicas, theatres and amphitheatres, baths, palaces, tombs, arches of triumph and pillars of victory, gates, bridges, and aqueducts, all equally objects of architectural skill. The best of these, in fact, are those which from previous neglect in other countries are stamped with originality. These would have been noble works indeed had it not been that the Romans unsuccessfully applied to them those orders and

details of architecture which were intended only to be applied to temples by other nations. In the time of Constantine these orders had nearly died out, and were only subordinately used for decorative purposes. In a little while they would have died out altogether, and the Roman would have become a new and complete style; but, as before remarked, this did not take place, and the most ancient orders therefore still remain an essential part of Roman art. We find the old orders predominating in the age of Augustus, and see them gradually die out as we approach that of Constantine.

Doric.

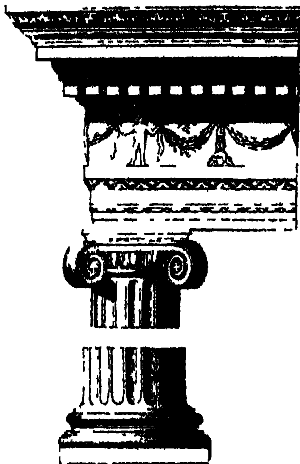
Adopting the usual clasification, the first of the Roman orders is the Doric, which, like everything else in this style, takes a place about half-way between the Tuscan wooden posts and the nobly simple order of the Greeks. It no doubt was a great improvement on the former, but for monumental purposes infinitely inferior to the latter. It was, however, more manageable; and for forums or court yards, or as a three quarter column between arcades, it was better adapted than the severer Greek style, which, when so employed, not only loses almost all its beauty, but becomes more unmeaning than the Roman. This fact was apparently recognised: for there is not, so far as is known, a single Doric temple throughout the Roman world. It would in consequence be most unfair to institute a comparison between a mere utilitarian prop used only in civil buildings and an order which the most refined artists in the world spent all their ingenuity in rendering the most perfect because it was devoted to the highest religious purposes.


Doric Order.

The addition of an independent base made the order much more generally useful, and its adoption brought it much more into harmony with the other two existing orders, which would appear to have been the principal object of its introduction. The key-note of Roman architecture was the Corinthian order; and as, from the necessities of their tall many-storied buildings, the Romans were forced to use the three orders together, often one over the other, it was indispensable that the three should be reduced to something like harmony. This was accordingly done, but at the expense of the Doric order, which, except when thus used in combination, must be confessed to have very little claim to our admiration.

Ionic.

The Romans were much more unfortunate in their modifications of the Ionic order than in those which they introduced into the Doric. They never seem to have either liked or understood it, nor to have employed it except as a *mezzo termine* between the other two. In its own native East this order had originally only been used in porticos between piers or *antæ*, where of course only one face was shown, and there were no angles to be turned. When the Greeks adopted it they used it in temples of Doric form, and in consequence were obliged to introduce a capital at each angle, with two voluted faces in juxtaposition at right angles to one another. In some instances — internally at least — as at Bassæ (woodcut No. 132) they used a capital with four faces. The Romans, impatient of control, eagerly seized on this modification, but never quite got over the extreme difficulty of its employment. With them the angular volutes became mere horns, and even in the best examples the capital wants harmony and meaning.



Ionic Order.

When used as a three-quarter column these alterations were not required, and then the order resembled more its original form; but even in this state it was never equal to the Greek examples, and gradually deteriorated to the corrupt application of it in the Temple of Concord in the Forum, which is the most degenerate example of the order now to be found in Roman remains.

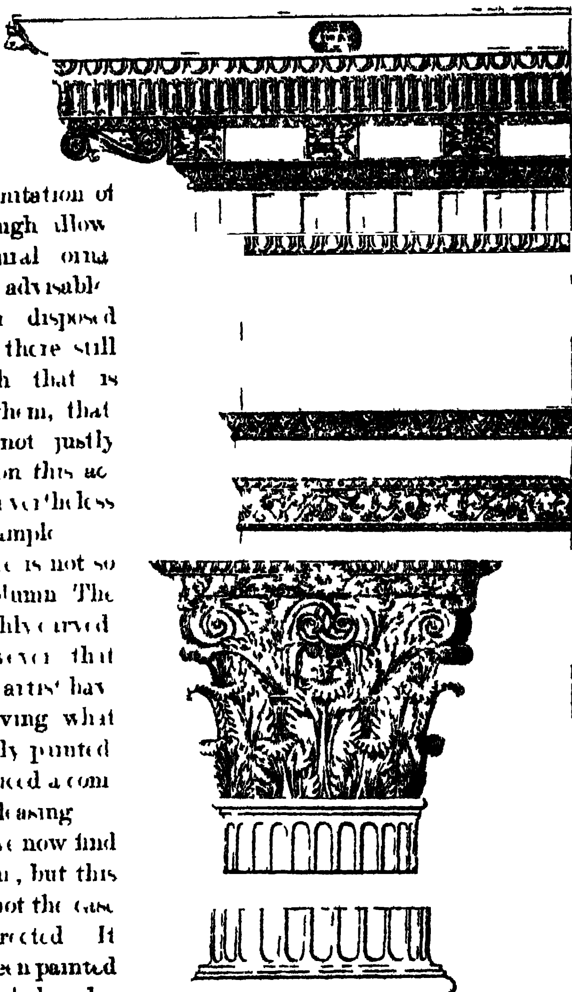
Corinthian.

The fate of this order in the hands of the Romans was different from that of the other two. The Doric and Ionic orders had reached their acme of perfection in the hands of the Grecian artists, and seem to have become incapable of further improvement. The Corinthian, on the contrary, was a recent conception; and although nothing can surpass the elegance and grace with which the Greeks adorned it, the new capital never acquired with them that fulness and strength so requisite to render it an appropriate architectural ornament. These were added to it by the Romans, or rather perhaps by Grecian artists acting under their direction, who thus, as shown in the woodcut No. 173, produced an order which for richness combined with proportion and architectural

fitness has hardly been surpassed. The base is elegant and appropriate; the shaft is of the most pleasing proportion, and the fluting gives it just the requisite degree of richness and no more; while the capital, though bordering on over ornamentation, is so well arranged as to appear just suited to the work it has to do. The leaves, it is true, approach the very verge of that degree of direct imitation of nature which, though allowable in architectural ornaments, is seldom advisable; they are, however, disposed so formally, and there still remains so much that is conventional in them, that, though perhaps not justly open to criticism on this account, they are nevertheless a very extreme example.

The entablature is not so admirable as the column. The architrave is too richly carved. It is evident, however, that this arose from the artists having copied in carving what the Greeks had only painted, and thereby produced a complexity far from pleasing.

The frieze, as we now find it, is perfectly plain; but this undoubtedly was not the case when originally erected. It either must have been painted (in which case the whole order of course was also painted), or ornamented with scrolls or figures in bronze, which may probably have been gilt.



171. Corinthian Order. From the Temple of Jupiter Stator.

The cornice is perhaps open to the same criticism as the architrave, of being over-rich, though this evidently arose from the same cause, viz., reproducing in carving what was originally only painted; which to our northern eyes at least appears more appropriate for

internal than for external decoration, though, under the purer skies where it was introduced and used, this remark may be hardly applicable.

The order of the portico of the Pantheon is, according to our notions, a nobler specimen of what an external pillar should be than that of the Temple of Jupiter Stator. The shafts are of one block, unfluted; the capital plainer; and the whole entablature, though as correctly proportional, is far less ornamented, and more suited to the greater simplicity of the whole.

The order of the Temple of Antoninus and Faustina is another example intermediate between these two. The columns are in this instance very similar to those of the Pantheon, and the architrave is plain. The frieze, however, is ornamented with more taste than any other in Rome, and is a very pleasing example of those conventional representations of plants and animals which are so well suited to architectural purposes - more like Nature than those of the Greeks, but still avoiding direct imitation sufficiently to escape the affectation of pretending to appear what it is not and cannot be.

The Maison Carrée at Nîmes presents an example of a frieze ornamented with exquisite taste, while at Baalbec, and in some other examples, we have them so over-ornamented that the effect is far more offensive, from utter want of repose, than the baldness of the frieze in the Temple of Jupiter Stator ever can be.

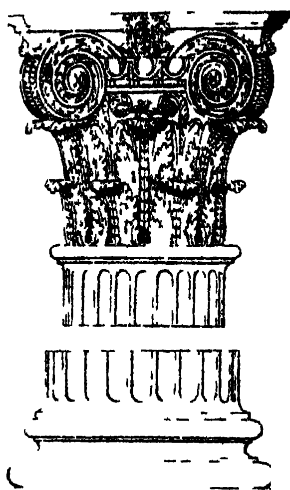
Besides these there are at least 50 varieties of Corinthian capitals to be found, either in Rome or in various parts of the Roman Empire, all executed within the three centuries during which Rome continued to be the Imperial city. Some of them are remarkable for that elegant simplicity which so evidently betrays the hand of a Grecian artist, while others again show a lavish exuberance of ornament which is but too characteristic of Roman art in general. Many, however, contain the germs of something better than was accomplished in that age; and a collection of them would afford more useful suggestions for designing capitals than have yet been available to modern artists.

Composite Order.

Among their various attempts to improve the order which has just been described, the Romans hit upon one which is extremely characteristic of their whole style of art. This is known by the distinguishing name of the Composite order, though virtually it is more like the typical examples of the Corinthian order than many of those classed under the latter denomination.

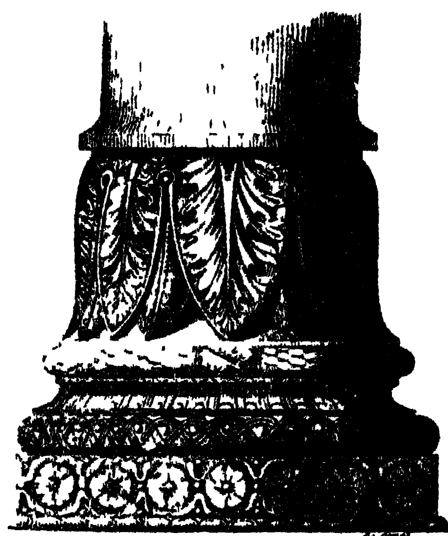
The greatest defect of the Corinthian capital is the weakness of the small volutes supporting the angles of the abacus. A true artist would have remedied this by adding to their strength, and carrying

up the fulness of the capital to the top. The Romans removed the whole of the upper part and substituted an Ionic capital instead. Their only original idea, if it may be so called, in art, was that of the putting two dissimilar things together to make one which should combine the beauties of both, though as a rule the one generally serves to destroy the other. In the Composite capital they never could hide the junction, and consequently, though rich and in some respects an improvement on the order out of which it grew, this capital never came into general use, and has seldom found favour except amongst the blindest admirers of all that the Romans did.



Composite Order.

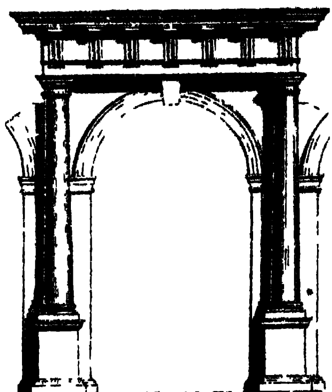
In the latter days of the Empire the Romans attempted another innovation which promised far better success, and with very little more elaboration would have been a great gain to the principles of architectural design. This was the introduction of the Persian or Assyrian base, modified to suit the details of the Corinthian or Composite orders. If they had always used this instead of the square pedestals on which they mounted their columns, and had attenuated the pillars slightly when used with arcades, they would have avoided many of the errors they fell into. This application, however, came too late to be generally used; and the forms already introduced continued to prevail. At the same time it is evident that a Persepolitan base for an Ionic and even for a Corinthian column would be amongst the greatest improvements that could be introduced, especially for internal architecture.



[illegible] Corinthian Base now found in Church of St. Praxede, Rome.

Composite Arcades.

The true Roman order, however, was not any of these columnar ordinances we have been enumerating, but an arrangement of 2 pillars placed at a distance from one another nearly equal to their own height, and having a very long entablature, which in consequence required to be supported in the centre by an arch springing from piers. This, as will be seen from the annexed woodcut, was in fact merely a screen of Grecian architecture placed in front of a construction of Etruscan design. Though not without a certain richness of effect, still, as used by the Romans, these two systems remain too distinctly dissimilar for the result to be pleasing, and their use necessitated certain supplemental arrangements by no means agreeable. In the first place, the columns had to be mounted on pedestals, or otherwise an entablature proportional to their size would have been too heavy and too important for a thing so useless and so avowedly a mere ornament. A projecting key stone was also introduced into the arch. This was unobjectionable in itself, but, when projecting so far as to do the duty of an intermediate capital, it overpowered the arch without being equal to the work required of it.



176.

The Romans used these arcades with all the 3 orders, frequently one over the other, and tried various expedients to harmonise the construction with the ornamentation, but without much effect. They seem always to have felt the discordance as a blemish, and at last got rid of it, but whether they did so in the best way is not quite clear. The most obvious mode of effecting this would no doubt have been by omitting the pillars altogether, bending the architrave, as is usually done, round the arch, and then inserting the frieze and cornices into the wall, using them as a string course. A slight degree of practice would soon have enabled them— by panelling the pier, cutting off its angles, or some such expedient—to have obtained the degree of lightness or of ornament they required, and so really to have invented a new order.

This, however, was not the course that the Romans pursued. What they did was to remove the pier altogether, and to substitute for it the pillar taken down from its pedestal. This of course was not effected at once, but was the result of many trials and expedients. One of the earliest of these is observed in the Ionic Temple of Concord before alluded to, in which a concealed arch is thrown from the head of each pillar, but above the entablature, so as to take the whole weight

of the superstructure from off the cornice between the pillars. When once this was done it was perceived that so deep an entablature was no longer required, and that it might be either wholly omitted, as was sometimes done, in the centre intercolumniation, or very much reduced. There is an old temple at Talavera in Spain, which is a good example of the former expedient, and the Church of the Holy Sepulchre, built by Constantine at Jerusalem, is a remarkable instance of the latter. There the architrave is cut off so as merely to form a block over each of the pillars, and the frieze and cornice only are carried across from one of these blocks to the other, while a bold arch is thrown from pillar to pillar over them, so as to take any weight from off a member which has at last become a mere ornamental part of the style.

In Diocletian's reign we find all these changes already introduced into domestic architecture, as shown in woodcut No. 177, representing the great court of his palace at Spalatro, where at one end the entablature is bent into the form of an arch for the central intercolumniation, while at the sides the arches spring directly from the capitals of the columns.



177. View in Court-yard of Palace at Spalatro.[1]

Had the Romans at this period been more desirous to improve their external architecture, there is little doubt that they would have adopted the expedient of omitting the entire entablature; but at this time almost all their efforts were devoted to internal improvement, and

[1] It has recently become the fashion to spell the name Spalato or Spelato. The mode of writing it adopted in this work is that used by Adams, which has consequently become classical among architects.

not unfrequently at the expense of the exterior. Indeed the whole history of Roman art, from the time of Augustus to that of Constantine, is a transition from the external architecture of the Greeks to the internal embellishment of the Christians. At first we see the cells of the temple gradually enlarged at the expense of the peristyle, and finally, as in the Pantheon, entirely overpowering them. Their basilicas and halls become more important than their porticos, and the exterior is in almost every instance sacrificed to internal arrangements. For an interior, an arch resting on a circular column is obviously far more appropriate than one resting on a pier. Externally, on the contrary, the square pier is most suitable, because a pillar cannot support a wall of sufficient thickness. This defect was not remedied until the Gothic architects devised the plan of coupling two or more pillars together; but this point had not been reached at the time, when with the fall of Rome all progress in art was effectually checked for a time.

Temples.

There is perhaps nothing that strikes the inquirer into the architectural history of Rome more than the extreme insignificance of her temples, as compared with the other buildings of the Imperial city, and with some temples found in the provinces. The only temple which remains at all worthy of such a capital is the Pantheon. All others are now mere fragments, from which we can with difficulty restore even the plans of the buildings, far less judge of their effect. We have now no means of forming an opinion of the great national temple of the Capitoline Jove, no trace of it, nor any intelligible description, having been preserved to the present time. Its having been of Etruscan origin, which retained its original form to the latest day, would lead us to suppose that the temple itself was small, and that its magnificence, if any, was confined to the enclosure and to the substructure, which may have been immense.

Of the Augustan age we have nothing but the remains of three temples, each consisting of only three columns, and the excavations that have been made around them have not sufficed to make even their plans tolerably clear.

The most remarkable was that of Jupiter Stator in the Forum, the beautiful details of which have been already alluded to and described. This temple was octastyle in front. It was raised on a stylobate 22 ft. in height, the extreme width of which was 98 ft., and this corresponds as closely as possible with 100 Roman ft. The angular columns were 85 ft. from centre to centre. The height of the pillars was 48 ft., and that of the entablature 12 ft. 6 in.[1] It is probable that the whole

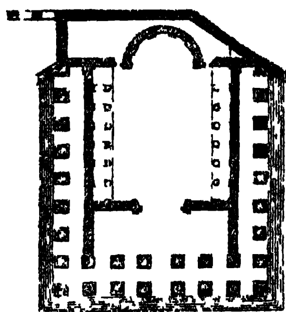
[1] These dimensions, with all those that follow, unless otherwise specified, are taken from Taylor and Creasy's 'Architectural Antiquities of Rome,' London, 1821. They seem more to be depended upon than any others I am acquainted with.

height to the apex of the pediment was nearly equal to the extreme width, and that it was designed to be so.

The pillars certainly extended on both flanks, and the temple is generally restored as peristylar, but apparently without any authority. From the analogy of the other temples it seems more probable that there were not more than 8 or 10 pillars on each side, and that the apse of the cella formed the termination opposite the portico.

The temple nearest to this in situation and style is that of Jupiter Tonans.[1] The order in this instance is of slightly inferior dimensions to that of the temple just described, and of very inferior execution. The temple too was very much smaller, having only 6 columns in front, and from its situation it could not well have had more than that number on the flanks, so that its extreme dimensions were probably about 70 ft. by 85.

The third is the Temple of Mars Ultor, of which a plan is annexed: for though now as completely decayed as the other two, in the time of Ant. Sabacco and Palladio there seem to have been sufficient remains to justify an attempt at restoration. As will be seen, it is nearly square in plan (112 ft. by 120). The cella is here a much more important part than is usual in Greek temples, and terminates in an apse, which afterwards became characteristic of all places of worship. Behind the cella, and on each side, was a lofty screen of walls and arches, part of which still remain, and there certainly form quite a new adjunct to anything hitherto met with in a temple form.



178 Temple of Mars Ultor. From Creasy's Rome. Scale 100 ft. to 1 in.

The next class of temples, called pseudo peripteral (or those in which the cella occupies the whole of the after part), are generally more modern, certainly more completely Roman than these last. One of the best specimens at Rome is the Temple of Antoninus and Faustina, a small building measuring 72 ft. by 120. There is also a very elegant little Ionic temple of this class called that of Fortuna Virilis; while the Ionic Temple of Concord, built by Vespasian, and above alluded to, appears also to have been of this class. So was the temple in the forum at Pompeii; but the finest specimen now remaining to us is the so called Maison Carrée at Nîmes, which is indeed one of the most elegant temples of the Roman world, owing probably a great deal of its beauty

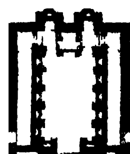
[1] These two temples, like almost all the others of Rome, have recently been renamed by the Roman or rather German antiquaries. The Jupiter Tonans is now the Temple of Saturn, and the Jupiter Stator is decreed to have been a Temple of Minerva. I have preferred the names by which they are currently known, as the architecture is of more importance here than the archæology.

to the taste of the Grecian colonists long settled in its neighbourhood. It is hexastyle, with 11 columns in the flanks, 3 of which stand free, and belong to the portico; the remaining 8 are attached to the walls of the cella. The temple is small, only 45 ft. by 85; but such is the beauty of its proportions and the elegance of its details that it strikes every beholder with admiration.


179. Plan of Maison Carrée at Nîmes. Scale 100 ft. to 1 in.

The date of this temple has not been satisfactorily ascertained. From the nail-holes of the inscription on the frieze it has been attempted to make out the names of Caius and Lucius Cæsar, and there is nothing in the style of its architecture to contradict this hypothesis. Even if the buildings in the capital were such as to render this date ambiguous, it would scarcely be safe to apply any argument derived from them to a provincial example erected in the midst of a Grecian colony. But they are not, otherwise we might almost be inclined to fancy its style represented the age of Trajan.

The Temple of Diana in the same city is another edifice of singular beauty of detail, and interesting from the peculiarity of its plan. Exclusive of the portico it is nearly square, 70 ft. by 65, and is divided into three aisles, which are all covered with ribbed stone vaults of a larger and bolder design in detail than those of Gothic form, and singularly interesting as the origin of much that we find afterwards. There are some of the arrangements of this building which in its ruined state it is difficult to understand, but these are not important.


180. Plan of Temple of Diana at Nîmes. Scale 100 ft. to 1 in.

Throughout this building the details of the architecture are unsurpassed for variety and elegance by anything found in the metropolis, and are applied here with a freedom and elegance bespeaking the presence of a Grecian mind even in this remote corner of the empire. Another interesting feature is the porch. This was supported by four slender columns of singularly elegant design, but placed so widely apart that they could not have carried a stone entablature. It is difficult to guess what could have been the form of the wooden ones; but a mortice which still exists in the walls of the temple shows that it must have been 8 or 10 feet deep, and therefore probably of Etruscan form (woodcut No. 181); though it may have assumed a circular arched form between the pillars.

Another peculiarity is, that the light was introduced over the portico by a great semicircular window, as is done in the Buddhist caves in India; and so far as I know, is the most perfect mode of lighting the interior of a temple which has yet been discovered.

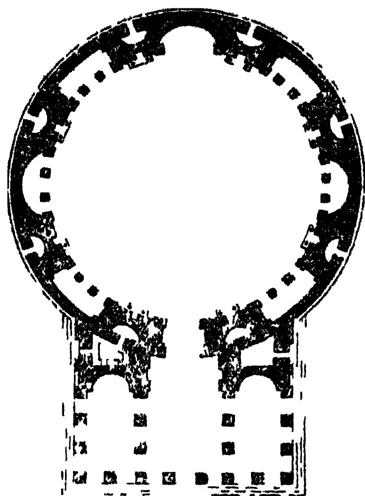


View of the Interior of the Temple of Diana at Nîmes. From Laborde.

Not far from the Colosseum, in the direction of the forum, are still to be seen the remains of a great double temple built by the Emperor Hadrian, and dedicated to Venus and Rome, and consisting of the ruins of its 2 cells, each about 70 ft. square, covered with tunnel-vaults, and placed back to back, so that their apses touch one another. These stand on a platform 480 ft. long by 330 wide, and it is generally supposed that on the edge of this once stood 56 great columns, 65 ft. in height, thus moulding the whole into one great peripteral temple. Some fragments of such pillars are said to be found in the neighbourhood, but not one is now erect,—not even a base is in its place,—nor can any of its columns be traced to any other buildings. This part, therefore, of the arrangement is very problematical, and I should be rather inclined to restore it, as Palladio and the older architects have done, with a corridor of ten small columns in front of each of the cells. If we could assume the plan of this temple to have been really peripteral, as supposed, it must have been a building worthy of the Imperial city, and of the magnificence of the emperor to whom its erection is ascribed.

More perfect and more interesting than any of these is the Pantheon, which is undoubtedly one of the finest temples of the ancient world. Externally its effect is very much destroyed by its two parts, the circular and the rectangular, being so dissimilar in style and so incongruously

joined together. The portico especially, in itself the finest which Rome exhibits, is very much injured by being prefixed to a mass which overpowers it and does not harmonise with any of its lines. The pitch, too, of its pediment is perhaps somewhat too high, but, notwithstanding all this, its 16 columns, the shaft of each composed of a single block, and the simple grandeur of the details, render it perhaps the most satisfactory example of its class.

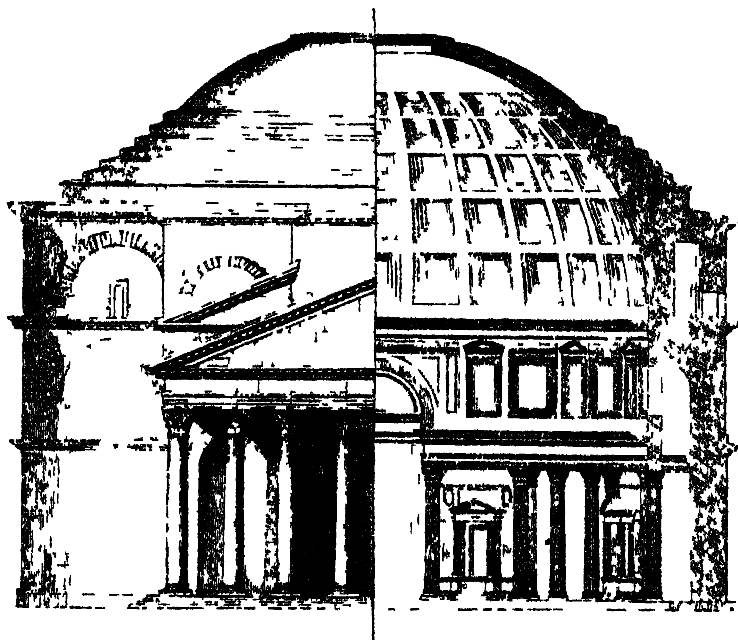


182. Plan of Pantheon at Rome. Scale 100 ft. to 1 in.

The pillars are disposed in the Etruscan fashion, and it is probable that they originally formed the portico to a 3-celled temple. The portico, as we know, not only from the inscription, but from the style, belongs to the age of Augustus, and it is generally supposed that it was added by Agrippa to the pre-existing rotunda. I feel convinced that the contrary was the case, and that the rotunda is very much more modern than the portico. We know from history that the building was frequently damaged by fire, that it was first restored by Hadrian, and afterwards, according to an inscription still existing on its portico, that it was repaired, if not rebuilt by Marcus Aurelius and Septimius Severus. The inscription expressly says it was restored because it was ruined from age (vetustate consumptum).[1] A building that shows no sign of decay after 17 centuries of neglect and spoliation, could hardly have fallen to decay in less than two hundred years of honoured occupation. It is therefore natural to conclude that the present building is not that alluded to, and that the original cella was of the usual square Etruscan form, and probably contained a great deal of wood in its construction, like all temples of that class, which necessarily exposed it to accidents by fire as well as to decay, neither of which is proved to have been incident to the existing building. Indeed, taking all the circumstances of the case into consideration, it seems to be more reasonable to argue that the rotunda was built under the Tarquins than during the reign of Augustus. We know, however, of no attempt at vaulting on anything like such a scale as this in the Augustan age, during which time the temples all affected the Greek peristylar form. Thenceforward the cells were gradually enlarged, and gradually, too, the exterior was

[1] IMP. CAES. M. AVRELIVS ANTONINVS PIVS FELIX AVG. TRIB. POTEST. V. COS. PROCOS. PANTHEVM VETVSTATE CORRVPTVM CVM OMNI CVLTV RESTITVERVNT.

sacrificed to the interior, which characteristics are here carried to excess. Besides this, the masonry of the rotunda is full of constructive discharging-arches, and shows other peculiarities of the latest age. All these considerations put together would rather lead to a conviction that the building dates almost as late as the age of Constantine; but as no record of any restoration so recently as that has yet come to light, we must for the present at least be content to assume its erection in the age of Aurelian or of Septimius Severus.

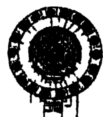


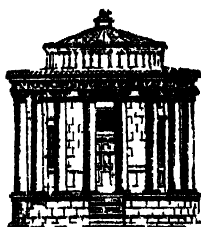
183. *Half Elevation, half Section of the Pantheon at Rome.* Scale 50 ft. to 1 in.

Internally perhaps the greatest defect of the building is a want of height in the perpendicular part, which the dome appears to overpower and crush. This mistake is aggravated by this lower part being cut up into two storeys, an attic being placed over the lower order. The former defect may have arisen from the architect wishing to keep the walls in some proportion to the portico. The latter is a peculiarity of the age in which I suppose this temple to have been erected, when two or more storeys seem to have become indispensable requisites of architectural design. We must ascribe also to the practice of the age the method of cutting through the entablature by the arches of the great niches, as shown in the sectional part of the last woodcut. It has already been pointed out that this was becoming a characteristic of the style at the time when the circular part of this temple appears to have been erected.

Notwithstanding these defects and many others of detail that might be mentioned, there is a grandeur and a simplicity in the proportions of this great temple that render it still one of the very finest and most sublime interiors in the world, and the dimensions of its dome, 145 ft. 6 in. span by 147 in height, have not yet been surpassed by any subsequent erection. Though it is deprived of its bronze covering and of the greater part of those ornaments on which it mainly depended for effect, and though these have been replaced by tawdry and incongruous modernisms, still nothing can destroy the effect of a design so vast and of a form so simply grand. It possesses moreover one other element of architectural sublimity in having a single window, and that placed high up in the building. I know of no other temples which possess this feature except the great rock-cut Buddhist basilicas of India. In them the light is introduced even more artistically than here: but, nevertheless, that one great eye opening upon heaven is by far the noblest conception for lighting a building to be found in Europe.

Besides this great rotunda there are two other circular temples in or near Rome. The one, at Tivoli, shown in plan and elevation in the annexed woodcuts (Nos. 184 and 185), has long been known and admired, the other, near the mouth of the Cloaca Maxima, has a cell surrounded by 20 Corinthian columns of singularly slender proportions. Both these probably stand on Etruscan sites, they certainly are Etruscan in form, and are very likely sacred to Pelasgic deities, either Vesta or Cybele.


184. Plan of Temple at Tivoli. Scale 100 ft. to 1 in.

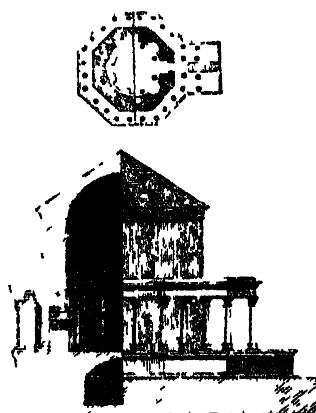

185. Restored Elevation of Temple at Tivoli. Scale 50 ft. to 1 in.

Both in dimensions and design they form a perfect contrast to the Pantheon, as might be expected from their both belonging to the Augustan age of art: consequently the cella is small, its interior is unornamented, and all the art and expense is lavished on the external features, especially on the peristyle: showing more strongly than even the rectangular temple the still remaining predominance of Grecian taste, which had disappeared before the erection of the Pantheon.

It is to be regretted that the exact date of both these temples is unknown, for, as that at Tivoli shows the stoutest example of a Corinthian column known, and that in Rome the slenderest, it might lead to some important deductions if we could be certain which was the older of the two. It may be, however, that this difference of style has no connexion with the relative age of the two buildings, but that it is merely an instance of the good taste of the age to which they belong. The Roman example, being placed in a low and flat situation,

required all the height that could be given it; that at Tivoli, being placed on the edge of a rock, required as much solidity as the order would admit of to prevent its looking poor and insecure. A Gothic or a Greek architect would certainly have made this distinction.

One more step towards the modern style of round temples was taken before the fall of the Western Empire, in the temple which Diocletian built in his palace at Spalatro. Internally the temple is circular, 28 ft. in diameter, and the height to the dome, or perpendicular part, is about equal to its width. This is a much more pleasing proportion than we find in the Pantheon, perhaps the very best that has yet been employed. Externally the building is an octagon, surrounded by a low dwarf peristyle, very unlike that employed in the older examples. This angularity is certainly a great improvement, giving expression and character to the building, and affording flat faces for the entrances or porches, but the peristyle is too low, and mars the dignity of the whole.[1]



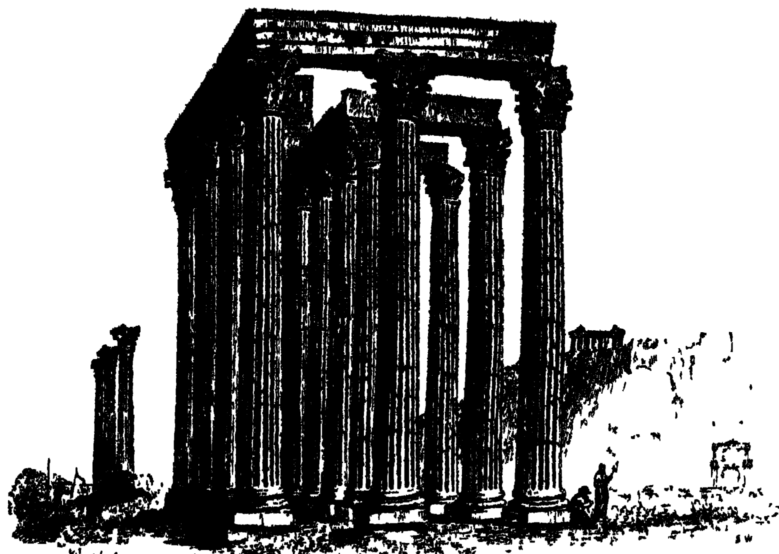
Plan and Elevation of Temple in Diocletian's Palace at Spalatro.
Scale for Plan [illegible] ft. to 1 in.; for Elevation [illegible] ft. to 1 in.

To us its principal interest consists in its being so extremely similar to the Christian baptisteries which were erected in the following centuries, and which were copies, but very slightly altered, from buildings of this class.

ATHENS.

Even assuming that Hadrian completed the great temple of Venus and Rome in the manner generally supposed, it must have been very far surpassed by the great temple of Jupiter Olympius at Athens, which, though probably not entirely erected, was certainly finished, by that emperor. It was decastyle in front, with a double range of 20 columns on each flank, so that it could not well have had less than 120 columns, all about 58 ft. in height, and of the most elegant Corinthian order, presenting altogether a group of far greater magnificence than any other temple we are acquainted with of its class in the ancient world. Its lineal dimensions also, as may be seen from the plan (woodcut No. 147), were unrivalled, as it was 171 ft. wide by 354 in length, or, nearly similar to those of the great Hypostyle Hall at Karnac, from which, however, it differs most mate-

[1] This building is commonly called a temple, though it is not known to what deity it was dedicated. My own impression is that it was a tomb, or at least a funeral monument of some sort.



187. Ruins of the Temple of Jupiter Olympius at Athens

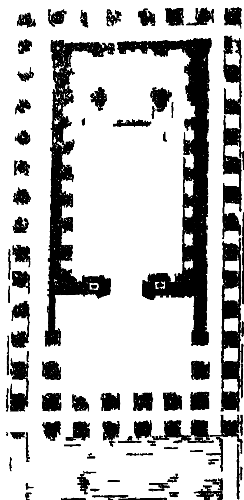
rially, that being a beautiful sample of an interior, this depending for all its magnificence on the external arrangement of its columns. Nothing now remains from which to restore its internal arrangement with anything like certainty; but it appears probable that the outer part of the cella was arranged as a peristylar court open in the centre, probably of two storeys, so as to admit light into the interior. This arrangement became so common in the early Christian world that there must have been some precedent for it which, in addition to other reasons,[1] strongly incline me to believe that the arrangement shown in the plan is correct

Baalbec.

The temples of Palmyra and Kangovar have been already mentioned in speaking of that of Jerusalem, to which class they seem to belong in their general arrangements, though their details are borrowed from Roman architecture. This, however, is not the case with the temples at Baalbec, which, taken together and with their accompaniments, form the most magnificent temple group now left to us of their class and age. The great temple, if completed (which, however, it probably never was), would have been about 160 ft. by 290, and therefore only inferior to that of Jupiter Olympius at Athens. Only nine of its colossal columns are now standing, but the bases of most of the others are *in situ*. Scarcely less magnificent than the temple itself was

[1] See 'True Principles of Beauty in Art,' p. 392, where the reasons for this arrangement will be found stated at length.

the court in which it stood, above 380 ft. square, and surrounded on three sides by recessed porticos of most exuberant richness, though in perhaps rather questionable taste. In front of this was a hexagonal court of very great beauty, with a noble portico of 12 Corinthian columns,* with two square blocks of masonry at each end. The whole extent of the portico is 260 ft., and of its kind it is perhaps unrivalled, certainly among the buildings of so late a date as the period to which it belongs.



188. Plan of Small Temple at Baalbec. Scale 100 ft. to 1 in.

The other, or smaller temple, stands close to the larger. Its dimensions, to the usual scale are shown in the plan (woodcut No. 188). It is larger than any of the Roman peripteral temples, being 117 ft. by 227 ft., or rather exceeding the dimensions of the Parthenon at Athens, and its portico is both wider and higher than that of the Pantheon at Rome. Had this portico been applied to that building, the slope of its pediment would have coincided exactly with that of the upper sloping cornice, and would have been the greatest possible improvement to that edifice. As it is, it certainly is the best proportioned and the most graceful Roman portico of the first class that remains to us in a state of sufficient completeness to allow us to judge of its effect.



189. Elevation of Small Temple at Baalbec. Scale 50 ft. to 1 in.

The interior of the cella was richly ornamented with niches and pilasters, and covered with a ribbed and coffered vault, remarkable, like every part of this edifice, rather for the profusion than for the good taste of its ornaments.

One of the principal peculiarities of this group of buildings is the immense size of some of the stones used in the substructure of the great temple: three of these average about 63 ft. in length, 10 ft. 5 in. in breadth, and

13 ft. in height. A fourth, of similar dimensions, is lying in the quarry, which it is calculated must weigh alone more than 1100 tons in its rough state, or nearly as much as one of the tubes of the Britannia bridge. It is not easy to see of what use such masses were; but in many places in the Bible and in Josephus nothing is so much insisted upon as the immense size of the stones used in the building of the temple and the walls of Jerusalem, the bulk of the materials used appearing to have been thought a matter of far more importance than the architecture. It probably was some such feeling as this which led to their employment here, though, had these huge stones been set upright as the Egyptians would have placed them, we might more easily have understood why so great an expense should have been incurred on their account.

CHAPTER IV.

BASILICAS, THEATRES, AND BATHS.

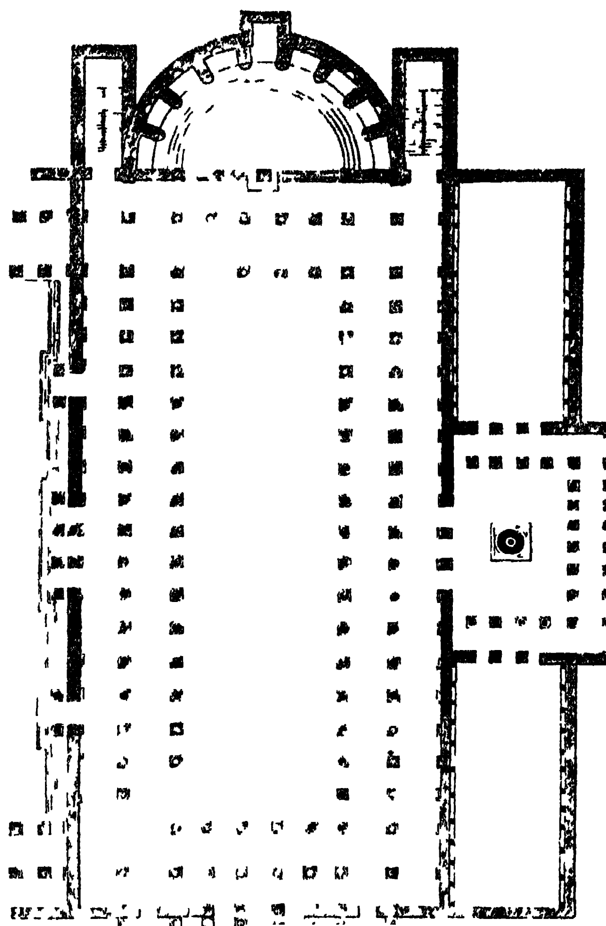
CONTENTS

Basilicas of Trajan and Maxentius — Provincial basilicas — Theatre at Orange — Colosseum — Provincial amphitheatres — Baths of Diocletian.

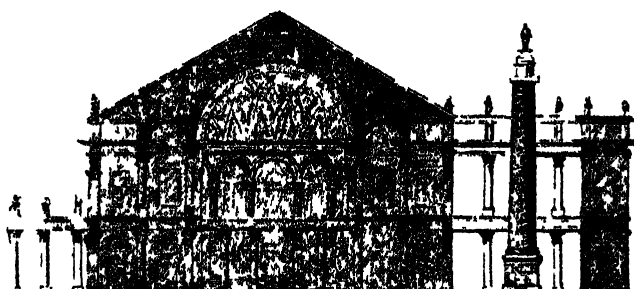
BASILICAS.

WE have already seen that in size and magnificence the temples of Rome were among the least remarkable of her public buildings. It may be doubted whether, in any respect, in the eyes of the Romans themselves, the temples were as important and venerable as the basilicas. That people cared for government and justice more than for religion, and consequently paid more attention to the affairs of the basilicas than to those of the temples. Our means for the restoration of this class of buildings are now but small, owing to their slight construction in the first instance, and to their materials having been so suitable for the building of Christian basilicas as to have been extensively used for that purpose. It happens, however, that the remains which we do possess comprise what we know to be the ruins of the two most splendid buildings of this class in Rome, and are sufficiently complete to enable us to restore their plans with considerable confidence. It is also fortunate that one of these, the Ulpian or Trajan's basilica, is the typical specimen of those with wooden roofs; the other, that of Maxentius, commonly called the Temple of Peace, is the noblest of the vaulted class.

The rectangular part of Trajan's basilica was 180 ft. in width and a little more than twice that in length, but, neither end having yet been excavated, its exact longitudinal measurement has not been ascertained. It was divided into five aisles by four rows of columns, each about 35 ft. in height, the centre being 87 ft. wide, and the side-aisles 23 ft. 4 in. each. The centre was covered by a wooden roof of semicircular form, covered apparently with bronze plates richly ornamented and gilt. Above the side-aisles was a gallery, the roof of which was supported by an upper row of columns. From the same columns also sprang the arches of the great central aisle. The total internal height



Plan of Trajan's Basilica at Rome. Scale 100 ft. to 1 in.



Restored section of Trajan's Basilica. Scale 100 ft. to 1 in.

was thus probably about 120 ft., or higher than any English cathedral, though not so high as some German and French churches.

At one end was a great semicircular apse, the back part of which was raised, being approached by a semicircular range of steps. In the centre of this platform was the raised seat of the quæstor or other magistrate who presided. On each side, upon the steps, were places for the assessors or others engaged in the business being transacted. In front of the apse was placed an altar, where sacrifice was performed before commencing any important public business.[1]

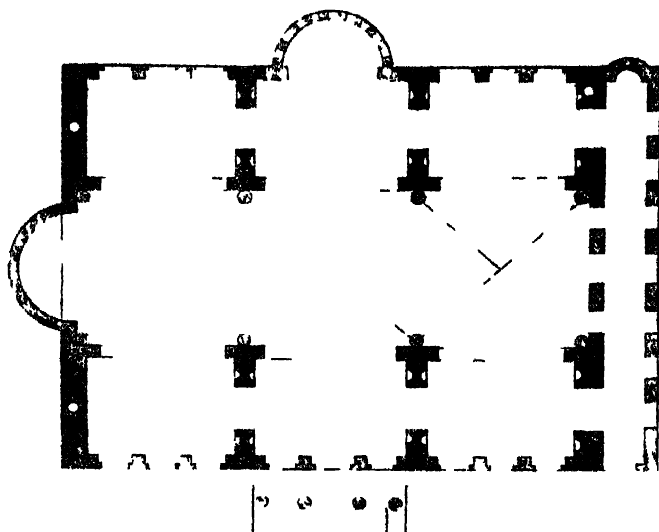
Externally this basilica could not have been of much magnificence. It was entered on the side of the Forum (on the left hand of the plan and section) by one triple doorway in the centre and two single ones on either side, covered by shallow porticos of columns of the same height as those used internally. These supported statues, or rather, to judge from the coins representing the buildings, rilievos, which may have set off, but could hardly have given much dignity to, a building designed as this was. At the end opposite the apse a similar arrangement seems to have prevailed.

This mode of using columns only half the height of the building must have been very destructive of their effect, and of the general grandeur of the structure, but it became about this time rather the rule than the exception, and was afterwards adopted for temples and every other class of buildings, so that it was decidedly an improvement when the arch took the place of the horizontal architrave and cornice; the latter always suggested a roof, and became singularly incongruous when applied as a mere ornamental adjunct. The interior of the basilica was, however, the important element to which the exterior was entirely sacrificed, this transition in architectural design, which we have before alluded to, taking place much faster in basilicas, which were an entirely new form of building, than in temples, whose conformation had become sacred from the traditions of past ages.

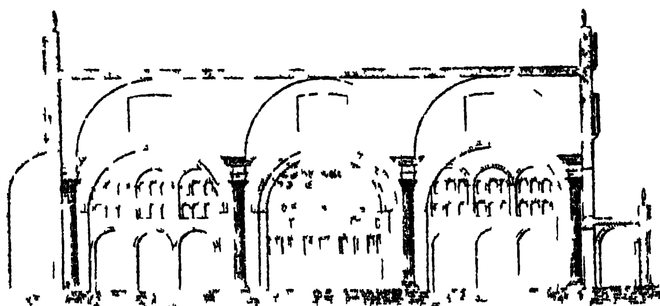
The basilica of Maxentius, which was probably not entirely finished till the reign of Constantine, was rather broader than that of Trajan, being 195 ft. between the walls, but it was 100 ft. less in length. The central aisle was very nearly of the same width, being 83 ft. between the columns, and 120 ft. in height. There was, however, a vast difference in the construction of the two; so much so, that we are startled to see how rapid the progress had been during the interval that had elapsed, of less than two centuries, between the construction of the two basilicas.

In this building no pillars were used with the exception of eight

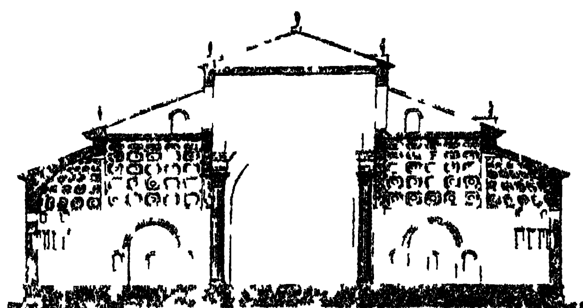
[1] This basilica is generally represented as having an apse at either end; but there is no authority whatever for this, and general analogy would lead us rather to infer that it was not the case.



[illegible] Scale [illegible]

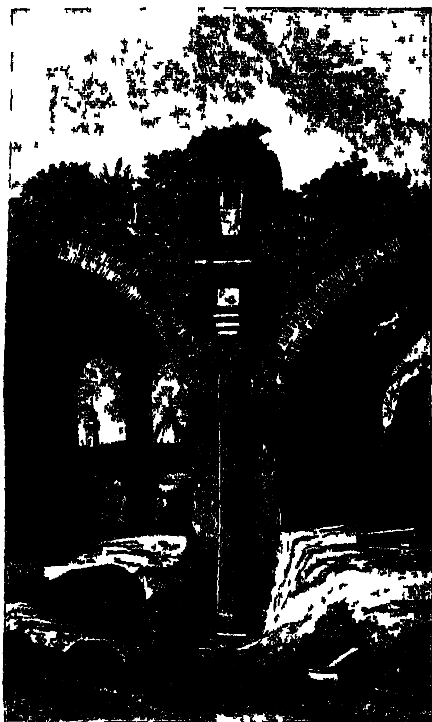


[illegible] Basilica of Maxentius. Scale [illegible]



[illegible] Basilica of Maxentius. Scale 100 ft. to 1 in.

great columns in front of the piers, employed merely as ornaments, or as vaulting shafts were in Gothic cathedrals, to support in appearance, though not in construction, the springing of the vaults.[1] The side-aisles were roofed by three great arches, each 72 ft. in span, and the centre by an immense intersecting vault in three compartments. The form of these will be understood from the annexed sections (woodcuts Nos. 193 and 194), one taken longitudinally, the other across the building. As will be seen from them, all the thrusts are collected to a point and a buttress placed there to receive them: indeed almost all the peculiarities afterwards found in Gothic vaults are here employed on a far grander and more gigantic scale than the Gothic architects ever attempted; but at the same time it must be allowed that the latter, with smaller dimensions, often contrived by a more artistic treatment of their materials to obtain as grand an effect, and far more actual beauty, than ever were attained in the great transitional halls of the Romans. The largeness of the parts of the Roman buildings was indeed their principal defect, as in consequence of this they must all have appeared smaller than they really were, whereas in all Gothic cathedrals the repetition and smallness of the component parts has the effect of magnifying their real dimensions.



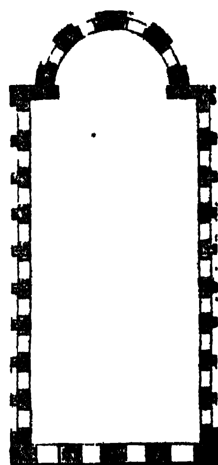
195. Pillar of Maxentian Basilica. From an old print quoted by Letarouilly.

The roofs of these halls had one peculiarity which it would have been well if the mediæval architects had copied, inasmuch as they were all honestly used as roofs without any necessity for their being covered with others of wood, as all Gothic vaults unfortunately were. It is true this is perhaps one of the causes of their destruction, for, being only

[1] One of the pillars of this basilica remained *in situ* till the year 1614, when it was removed by Carlo Maderno, by order of Paul V., and re-erected in the piazza of St. M. Maggiore, where it now stands as a monumental column, supporting a statue of the Virgin. The column, with its base and capital, is as nearly as may be 60 feet in height. The whole monument, as it now stands, 140 feet.

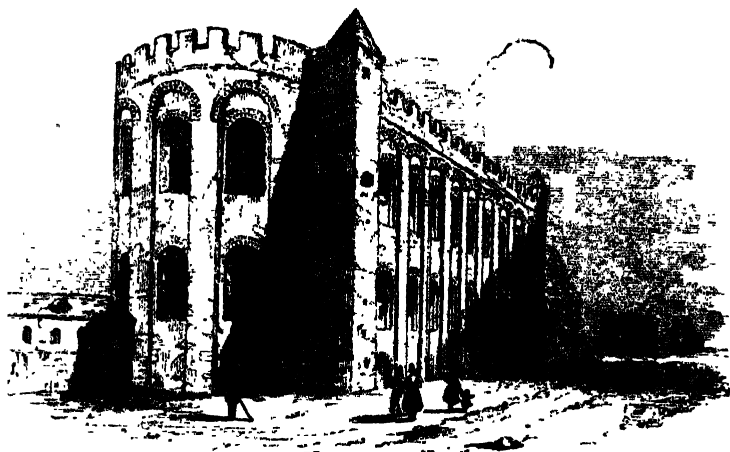
overlaid with cement, the rain wore away the surface, as must inevitably be the case with any composition of the sort exposed horizontally to the weather, and, that being gone, the moisture soon penetrated through the crevices of the masonry, destroying the stability of the vault. Still some of these in Rome have resisted for fifteen centuries all the accidents of climate and decay, while there is not a Gothic vault of half their dimensions that would stand for a century after the removal of its wooden protection. The construction of a vault capable of resisting the destructive effects of exposure to the atmosphere still remains a problem for modern architects to solve. Until this is accomplished we must regard honest wooden roofs as preferable to the deceptive stone ceilings which were such favourites in the middle ages.

The provincial basilicas of the Roman empire have nearly all perished, probably from their having been converted, first into churches, for which they were so admirably adapted, and then rebuilt to suit the exigencies and taste of subsequent ages. One example, however, still exists in Trèves of sufficient completeness to give a good idea of what such structures were. As will be seen by the annexed plan it consists of a great hall 85 ft. in width internally, and rather more than twice that dimension in length. The walls are about 100 ft. in height and pierced with two rows of windows, but whether they were originally separated by a gallery or not is now by no means clear. At one end was the apse, rather more than a semicircle of 60 ft. in diameter. The floor of the apse was raised considerably above that of the body of the building, and was no doubt adorned by a hemicycle of seats raised on steps, with a throne in the centre for the judge. The building has been used for so many purposes since the time of the Romans, and has been so much altered, that it is not easy now to speak with certainty of any of its minor arrangements. Its internal and external appearance, as it stood before the recent restoration, are well expressed in the annexed woodcuts; and, though ruined, it was the most complete example of a Roman basilica to be found anywhere out of the capital. A building of this description has been found at Pompeii, which may be considered a fair example of a provincial basilica of the second class. Its plan is perfectly preserved, as shown in the woodcut, No. 199. The most striking difference existing between it and those previously described is the square termination instead of the circular apse. It must, however, be observed that Pompeii was situated nearer to Magna Græcia than to Rome, and was indeed far more a Greek than a Roman city. Very slight traces of



196 Plan of the Basilica at Trèves. Scale 100 ft. to 1 in.

any Etruscan designs have been discovered there, and scarcely any buildings of the circular form, so much in vogue in the capital. Though the ground-plan of this basilica remains perfect, the upper parts are



External View of the Basilica at Trèves

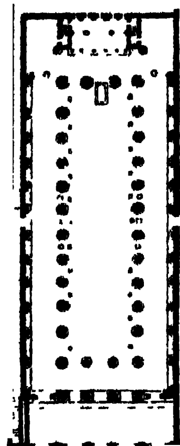
entirely destroyed, and we do not even know for certain whether the central portion was roofed or not; my own impression is, however, that it certainly was so, and lighted by a clerestory like the cellæ of Greek temples; as, however, it had no peristyle, it may possibly have had windows in the upper gallery, and the clerestory windows were probably not countersunk like those in the Greek temples.



Internal View of the Basilica at Trèves.

There is a small square building at Otricoli, which is generally supposed to be a basilica, but its object as well as its age is so uncertain that nothing need be said of it here. In the works of Vitruvius, too, there is a description of one built by him at Fano, the restoration of which has afforded employment for the ingenuity of the admirers of that worst of architects. Even taking it as restored by those most desirous of making the best of it, it is difficult to understand how anything so bad could have been erected in such an age.

It is extremely difficult to trace the origin of these basilicas, owing principally to the loss of all the earlier examples. Their name is Greek, and they may probably be considered as derived from the Grecian Lesche, or perhaps as amplifications of the cellæ of Greek temples, appropriated to the purposes of justice rather than of religion; but till we know more of their earlier form and origin, it is useless speculating on this point. The greatest interest to us arises rather from the use to which their plan was afterwards applied than from the source from which they themselves sprang. All the larger Christian churches in the early times were copies, more or less exact, of the basilicas of which that of Trajan is an example. The abundance of pillars, suitable to such an erection, that were found everywhere in Rome, rendered their construction easy and cheap and the wooden roof with which they were covered was also as simple and as inexpensive a covering as could well be designed. The very uses of the Christian basilicas at first were by no means dissimilar to those of their heathen originals, as they were in reality the assembly halls of the early Christian republic, before they became liturgical churches of the catholic hierarchy.



199. Plan of Basilica at Pompeii. Scale 100 ft. to 1 in.

The more expensive construction of the bold vaults of the Maxentian basilica went far beyond the means of the early Church, established in a declining and abandoned capital, and this form therefore remained dormant for seven or eight centuries before it was revived by the mediaeval architects on an infinitely smaller scale, but adorned with a degree of appropriateness and taste to which the Romans were strangers. It was then used with a completeness and unity which entitle it to be considered as an entirely new style of architecture.

Theatres.

The theatre was by no means so essential a part of the economy of a Roman city as it was of a Grecian one. With the latter it was quite as indispensable as the temple; and in the semi-Greek city of Herculaneum there was one, and in Pompeii two, on a scale quite equal to those of Greece when compared with the importance of the town itself. In the capital there appears only to have been one, that of Marcellus, built during the reign of Augustus. It is very questionable whether what we now see—especially the outer arcades—belong to that age, or whether the theatre may not have been rebuilt and these arcades added at some later period. It is so completely built over by modern houses, and so ruined, that it is extremely difficult to arrive at any satisfactory

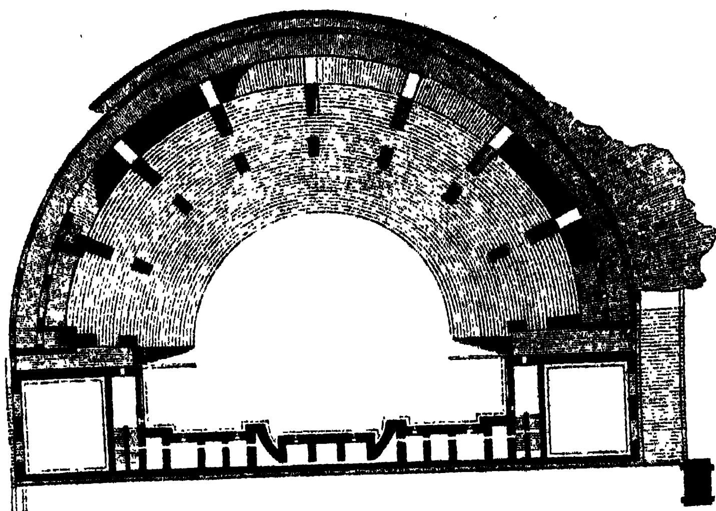
opinion regarding it. Its dimensions were worthy of the capital, the audience part being a semicircle of 410 ft. in diameter, and the scena being of great extent in proportion to the other part, which is a characteristic of all Roman theatres, as compared with Grecian edifices of this class.

One of the most striking Roman provincial theatres is that of Orange, in the south of France. Perhaps it owes its existence, or at all events its splendour, to the substratum of Grecian colonists that preceded the Romans in that country. Its auditorium is 340 ft. in diameter, but much ruined, in consequence of the princes of Orange having used this part as a bastion in some fortification they were constructing.

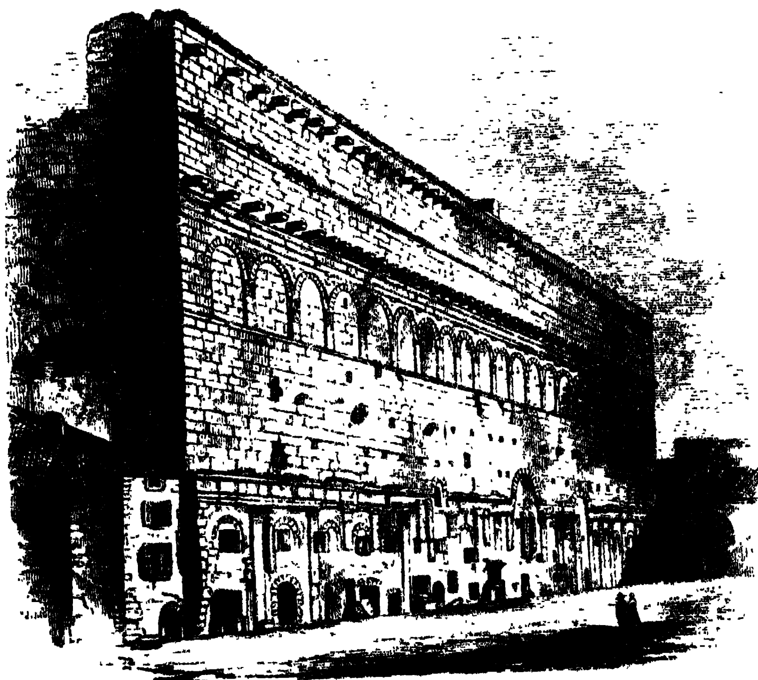
The stage is very tolerably preserved. It shows well the increased extent and complication of arrangements required for the theatrical representations of the age in which it was constructed, being a considerable advance towards the more modern idea of a play, as distinguished from the stately semi-religious spectacle in which the Greeks delighted. The noblest part of the building is the great wall at the back, an immense mass of masonry, 340 ft. in extent, and 116 ft in height, without a single opening above the basement, and no ornament except a range of blank arches, about midway between the basement and the top, and a few projecting corbels to receive the footings of the masts that supported the velarium. Nowhere does the architecture of the Romans shine so much as when their gigantic buildings are left to tell their own tale by the imposing grandeur of their masses. Whenever ornament is attempted, their bad taste comes out. The size of their edifices, and the solidity of their construction, were only surpassed by the Egyptians, and not always by them; and when, as here, the mass of material heaped up stands unadorned in all its native grandeur, criticism is disarmed. and the spectator stands awe-struck at its majesty, and turns away convinced that truly "there were giants in those days." This is not, it is true, the most intellectual way of obtaining architectural effect, but it has the advantage of being the easiest, the most certain to secure the desired result, and at the same time the most permanent.

AMPHITHEATRES.

The deficiency of theatres erected by the Romans is far more than compensated by the number and splendour of their amphitheatres, which, with their baths, may be considered as the true types of Roman art, although it is almost certain that they derived this class of public buildings from the Etruscans. At Sutri there is a very noble one cut out of the tufa rock, which was no doubt used by that people for festal representations long before Rome attempted anything of the



Plan of the Theatre at Orange. Scale 100 ft. to 1 in.



201. View of the Theatre at Orange.

kind. It is uncertain whether gladiatorial fights or combats of wild beasts formed any part of the amusements of the arena in those days, though boxing, wrestling, and contests of that description certainly did; but whether the Etruscans actually proceeded to the shedding of blood and slaughter is more than doubtful.

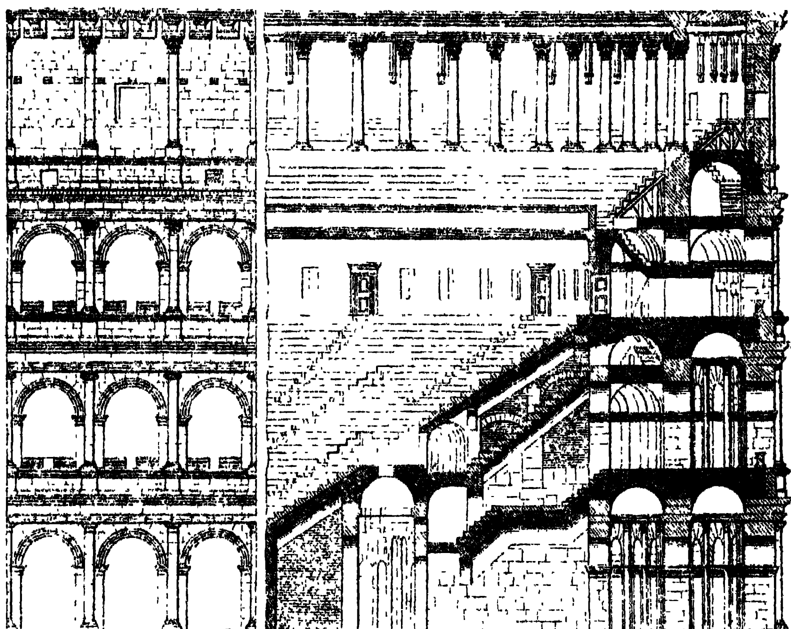
Even in the remotest parts of Britain, in Germany, and Gaul, wherever we find a Roman settlement, we find the traces of their amphitheatres. Their soldiery, it seems, could not exist without the enjoyment of seeing men engaged in doubtful and mortal combats — either killing one another, or torn to pieces by wild beasts. It is not to be wondered at that a people who delighted so much in the bloody scenes of the arena should feel but very little pleasure in the mimic sorrows and tame humour of the stage. It fitted them, it is true, to be a nation of conquerors, and gave them the empire of the world, but it brought with it feelings singularly inimical to all the softer arts, and was perhaps the great cause of their ultimate debasement.

As might be expected, the largest and most splendid of these buildings is that which adorns the capital; and of all the ruins which Rome contains, none have excited such universal admiration as the Flavian amphitheatre. Poets, painters, rhapsodists, have exhausted all the resources of their arts in the attempt to convey to others the overpowering impression this building produces on their own minds. With the single exception, perhaps, of the Hall at Karnac, no ruin has met with such universal admiration as this. Its association with the ancient mistress of the world, its destruction, and the half prophetic destiny ascribed to it, all contribute to this. In spite of our better judgment we are forced to confess that

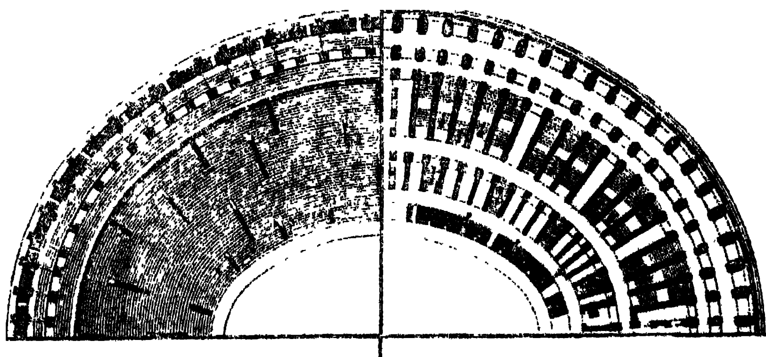
> "The gladiators' bloody circus stands
> A noble wreck in ruinous perfection,"

and worthy of all or nearly all the admiration of which it has been the object. Its interior is almost wholly devoid of ornament, or anything that can be called architecture—a vast inverted pyramid. The exterior does not possess one detail which is not open to criticism, and indeed to positive blame. Notwithstanding all this, its magnitude, its form, and its associations, all combine to produce an effect against which the critic struggles in vain. Still all must admit that the pillars and their entablature are useless and are added incongruously, and that the upper storey, not being arched like the lower, but solid, and with ugly pilasters, is a painful blemish. This last defect is so striking that, in spite of the somewhat dubious evidence of medals, I should feel inclined to suspect that it was a subsequent addition, and meant wholly for the purpose of supporting and working the great velarium or awning that covered the arena during the representation, which may not have been attempted when the amphitheatre was first erected.

Be this as it may, it certainly now very much mars the effect of the building. The lower storeys are of bad design, but this is worse. But notwithstanding these defects, there is no building of Rome where the principle of reduplication of parts, of which the Gothic architects afterwards made so much use, is carried to so great an extent as in this. The Colosseum is principally indebted to this feature for the effect which it produces. Had it, for instance, been designed with only one storey of the height of the four now existing, and every arch had consequently been as wide as of the present four, the building would have scarcely appeared half the size it is now seen to be. For all this,



202 Elevation and Section of part of the Flavian Amphitheatre at Rome. Scale 50 ft. to 1 in.



203. Quarter-plan of the Seats and quarter-plan of the Basement of the Flavian Amphitheatre. No Scale.

however, when close under it, and comparing it with moving figures and other objects, we could scarcely eventually fail to realize its wonderful dimensions. In that case, a true sense of the vast size of the building would have had to be acquired, as is the case with the façade of St. Peter's. Now it forces itself on the mind at the first glance. It is the repetition of arch beyond arch and storey on storey that leads the mind on, and gives to this amphitheatre its imposing grandeur, which all acknowledge, though few give themselves the trouble to enquire how this effect is produced.

Fortunately, too, though the face of the building is much cut up by the order, the entablatures are unbroken throughout, and cross the building in long vanishing lines of the most graceful curvatures. The oval, also, is certainly more favourable for effect than a circular form would be. A building of this shape may perhaps look smaller than it really is to a person standing exactly opposite either end; but in all other positions the flatter side gives a variety and an appearance of size which the monotonous equality of a circle would never produce.

The length of the building, measured along its greatest diameter, is 620 ft., its breadth 513, or nearly in the ratio of 6 to 5, which may be taken as the general proportion of these buildings, the variations from it being slight, and apparently either mistakes in setting out the work in ancient times, or in measuring it in modern days, rather than an intentional deviation. The height of the three lower storeys, or of what I believe to have been the original building, is 120 ft.; the total height as it now stands is 157 ft. The arena itself measures 287 ft. in length by 180 in breadth. The whole area of the building has been calculated to contain 250,000 square feet, of which the arena contains 40,000; then deducting 10,000 for the external wall, 200,000 square feet will remain available for the audience. If we divide this by 5,[1] which is the number of square feet it has been found necessary to allow for each spectator in modern places of amusement, room will be afforded for 40,000 spectators; at 4 feet, which is a possible quantity, with continuous seats and the scant drapery of the Romans, the amphitheatre might contain 50,000 spectators at one time.

The area of the supports has also been calculated at about 40,000 sq. ft., or ⅕ of the whole area; which for such an edifice is more than sufficient, though the excess accounts for the stability of the building.

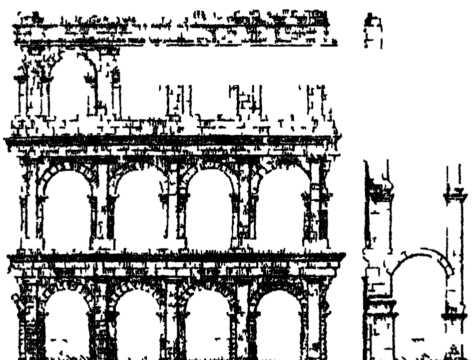
Next in extent to this great metropolitan amphitheatre was that of Capua; its dimensions were 558 ft. by 460; its height externally 95 feet. It had 3 storeys, designed similarly to those of the Colosseum, but all of the Doric order, and used with more purity than in the Roman example.

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[1] At the Crystal Palace it has always been found necessary to allow 6 square feet to each person.

Next in age, though not in size, is that at Nîmes, 430 ft. by 378, and 72 in height, in 2 storeys. Both these storeys are more profusely and more elegantly ornamented with pillars than those of either of the amphitheatres mentioned above. The entablature is however broken over each column, and pediments are introduced on each front. All these arrangements, though showing more care in design, and sufficient elegance in detail, make this building very inferior in grandeur to the two earlier edifices, whose simplicity of outline makes up, to a great extent, for their faults of detail.

A more beautiful example than this is that at Verona. Its dimensions are 502 ft. by 401, and 98 ft high, in three storeys beautifully proportioned. Here the order almost entirely disappears, to make way for rustication, showing that it must be considerably more modern than either of the three examples above quoted, though hardly so late as the time of Maximianus, to whom it is frequently ascribed.[1] The arena of this amphitheatre is very nearly perfect, owing to the care taken of it during the middle ages, when it was often used for tournaments and other spectacles; but of its outer architectural enclosure only 4 bays remain, sufficient to enable an architect to restore the whole, but not to allow of its effect being compared with that of more entire examples.



201. Elevation of Amphitheatre at Verona. Scale 50 ft. to 1 in.

The amphitheatre at Pola, which is of about the same age as that of Verona, and certainly belonging to the last days of the Western Empire, presents in its ruin a curious contrast to the other. That at Verona has a perfect arena, and only a fragment of its exterior decoration, while the exterior of Pola is perfect, but not a trace remains of its arena, or of the seats that surrounded it. This is probably owing to their having been of wood, and consequently having either decayed or been burnt. Like that at Verona, it presents all the features of the last stage of transition; the order is still seen, or rather is everywhere suggested, but so concealed and kept subordinate that it does not at all interfere with the general effect. But for these faint traces we should possess in this amphitheatre one specimen entirely emancipated from incongruous Grecian forms, but, as before

[1] Maffei, 'Verona Illustrata,' vol. vii. p. 84 et seq.

remarked, Rome perished when just on the threshold of the new style.

The dimensions of the amphitheatre at Pola are very nearly the same as of that at Nîmes, being 436 ft. by 346. It has, however, 3 storeys, and thus its height is considerably greater, being 97 ft. Owing to the inequality of the ground on which it is built, the lower storey shows the peculiarity of a sub-basement, which is very pleasingly managed, and appears to emancipate it more from conventional forms than is the case with its contemporary at Verona. The third storey, or attic, is also more pleasing than elsewhere, as it is avowedly designed for the support of the masts of the velarium. The pilasters and all Greek forms are omitted, and there is only a groove over every column of the middle storey to receive the masts. There is also a curious sort of open battlement on the top, evidently designed to facilitate the working of the awning, though in what manner is not quite clear. There is still one other peculiarity about the building inasmuch as the curvature of its lines is broken by 4 projections, intended apparently to contain staircases. They appear, however, to have been subsequent additions, the stones of which they are built being of a different colour from those of the body of the building. In a building so light and open as this one is in its present state there can be no doubt but that the projections give expression and character to the outline, though such additions would go far to spoil any of the greater examples above quoted.

At Otricoli there is a small amphitheatre, 312 ft. by 230, in 2 stories, from which the order has entirely disappeared; it is therefore possibly the most modern of its class, but the great flat pilasters that replace the pillars are ungraceful and somewhat clumsy. Perhaps its peculiarities ought rather to be looked on as provincialisms than as genuine specimens of an advanced style. Still there is a pleasing simplicity about it that on a larger scale would enable it to stand comparison with some of its greater rivals.

Besides these, which are the typical examples of the style, there are the "Castrense" at Rome, nearly circular, and possessing all the faults and none of the beauties of the Colosseum; one at Arles, very much ruined; and a great number of provincial ones, not only in Italy and Gaul, but in Germany and Britain. Almost all these were principally if not wholly excavated from the earth, the part above ground being the mound formed by the excavation. If they ever possessed any external decoration to justify their being treated as architectural objects, it has disappeared, so that in the state at least in which we now find them they do not belong to the ornamental class of works of which we are at present treating.

Baths.

Next in splendour to the amphitheatres of the Romans were their great thermal establishments. In size they were perhaps even more remarkable, and their erection must certainly have been more costly. The amphitheatre, however, has the great advantage in an architectural point of view of being one object, one hall in short, whereas the baths were composed of a great number of smaller parts, not perhaps very successfully grouped together. They were wholly built of brick covered with stucco (except perhaps the pillars), and have, therefore, now so completely lost their architectural features that it is with difficulty that even the most practised architect can restore them to anything like their original forms.

In speaking of the great Thermæ of Imperial Rome, they must not be confounded with such establishments as that of Pompeii for instance. The latter was very similar to the baths now found in Cairo or Constantinople, and indeed in most eastern cities. These are mere establishments for the convenience of bathers, consisting generally of one or two small circular or octagonal halls, covered by domes, and one or two others of an oblong shape, covered with vaults or wooden roofs, used as reception rooms, or places of repose after the bath. These have never any external magnificence beyond an entrance porch, and although those at Pompeii are decorated internally with taste, and are well worthy of study, their smallness of size and inferiority of design do not admit of their being placed in the same category as those of the capital, which are as characteristic of Rome as her amphitheatres, and are such as could only exist in a capital where the bulk of the people were able to live on the spoils of the conquered world rather than by the honest gains of their own industry.

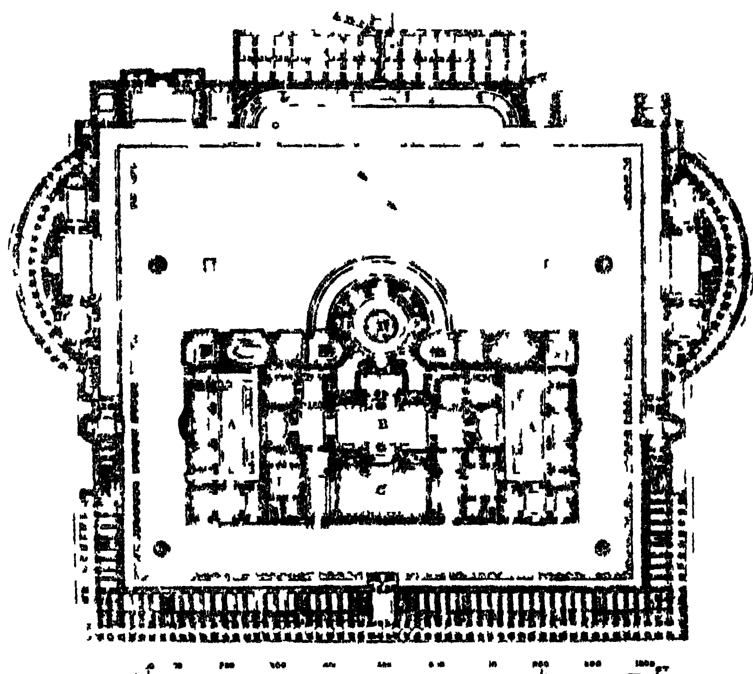
Agrippa is said to have built baths immediately behind the Pantheon, and Palladio and others have amused themselves by restoring them, assuming that building to have been the entrance-hall. Nothing, however, could, I believe, be more unfounded than such an assumption, and no ruins exist sufficiently perfect to enable us to ascertain the arrangements of these baths or even their exact extent or position.

Nero's baths too, are a mere heap of shapeless ruins, and those of Vespasian, Domitian, and Trajan in like manner are too much ruined for their form or even their dimensions, to be ascertained with anything like correctness. Those of Titus are more perfect, but the very discrepancies that exist between the different systems upon which their restoration has been attempted show that enough does not remain to enable the task to be accomplished in a satisfactory manner. They owe their interest more to the beautiful fresco paintings that adorn their vaults than to their architectural character. These paintings are invaluable, as being almost the only

relics of the painted decoration of the most flourishing period of the Empire, and give a higher idea of Roman art than other indications would lead us to expect.

The baths of Constantine are also nearly wholly destroyed, so that out of the great Thermæ two only, those of Diocletian and of Caracalla, now remain sufficiently perfect to enable a restoration to be made of them with anything like certainty.

The great hall belonging to the baths of Diocletian is now the Church of Sta. Maria degli Angeli, and has been considerably altered to suit the changed circumstances of its use, while the modern buildings attached to the church have so overlaid the older remains that it is not easy to follow out the complete plan. This is of less consequence, as both in dimensions and plan they are extremely similar to those of Caracalla, which seem to have been among the most magnificent, as they certainly are the best preserved, of these establishments.[1]



5 Baths of Caracalla, as restored by A. Blouet.

The general plan of the whole enclosure of the baths of Caracalla, was a square of about 1150 ft. each way, with a bold but graceful cur-

[1] These baths have been carefully measured by M. Blouet, who has also published a restoration of them. This is, on the whole, certainly the best account we have of any of these establishments.

vilinear projection on two sides, containing porticoes, gymnasia, lecture-rooms, and other halls for exercise of mind or body. In the rear were the reservoirs to contain the requisite supply of water, and below them the hypocaust or furnace, by which it was warmed with a degree of scientific skill we hardly give the Romans of that age credit for. Opposite to this and facing the street was one great portico extending the whole length of the building, into which opened a range of apartments meant apparently to be used as private baths, which extend also some way up each side. In front of the hypocaust, facing the north-east, was a semicircus or *theatridium*, 530 ft. long, where youths performed their exercises or contended for prizes.

These parts were, however, merely the accessories of the establishment surrounding the garden, in which the principal building was placed. This was a rectangle 730 ft. by 380, with a projection covered by a dome on the south-western side, which was 167 ft. in diameter externally, and 115 ft. internally. There were two small courts (A A) included in the block, but nearly the whole of the rest appears to have been roofed over.

The modern building which approaches nearest in extent to this is probably our Parliament Houses. These are about 830 feet in length, with an average breadth of about 300, and, with Westminster Hall, cover as nearly as may be the same area as the central block of these baths. But there the comparison stops; there is no building of modern times on anything like the same scale arranged wholly for architectural effect as this one is, irrespective of any utilitarian purpose. On the other hand the whole of the walls being covered with stucco, and almost all the architecture being expressed in that material, must have detracted considerably from the monumental grandeur of the effect. Judging, however, from what remains of the stucco ornament of the roof of the Maxentian Basilica (woodcut No. 194), it is wonderful to observe what effects may be obtained with even this material in the hands of a people who understand its employment. While stone and marble have perished, the stucco of these vaults still remains, and is as impressive as any other relic of ancient Rome.

In the centre was a great hall (B), almost identical in dimensions with the central aisle of the Basilica of Maxentius already described, being 82 ft. wide by 170 in length, and roofed in the same manner by an intersecting vault in three compartments, springing from eight great pillars. This opened into a smaller apartment at each end of rectangular form, and then again into two other semicircular halls, forming a splendid suite 460 ft. in length. This central room is generally considered as the *tepidarium*, or warmed apartments, having four warm baths opening out of it. On the north-east side was the natatio, or plunge bath (C), probably tepid, a room of nearly the same dimensions and design as the central one. On the side opposite to this

CHAPTER V.

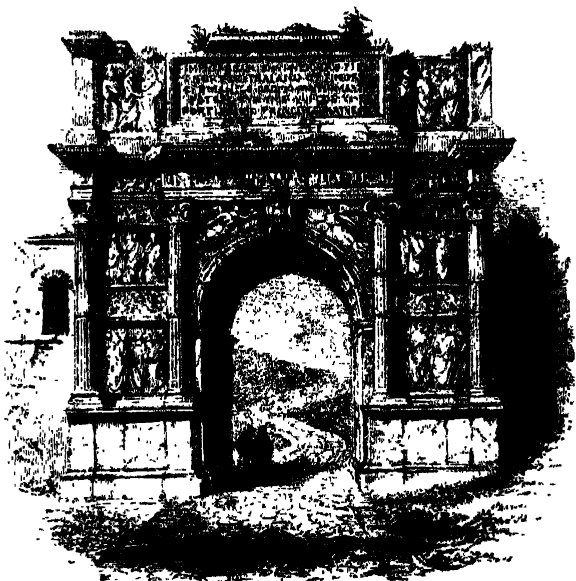
TRIUMPHAL ARCHES, TOMBS, AND OTHER BUILDINGS.

CONTENTS.

Arches at Rome; in France — Arch at Trèves — Pillars of Victory — Tombs - Minerva Medica — Provincial tombs — Eastern tombs — Domestic architecture - Spalatro — Pompeii — Bridges — Aqueducts.

Triumphal arches were among the most peculiar of the various forms of art which the Romans borrowed from those around them, and used with that strange mixture of splendour and bad taste which characterises all their works.

These were in the first instance no doubt borrowed from the Etruscans, as was also the ceremony of the triumph with which they were ultimately associated. At first they seem rather to have been used as festal entrances to the great public roads, the construction of which was considered one of the most important benefits a ruler could confer upon his country. There was one erected at Rimini in honour of an important restoration of the Flaminian Way by Augustus; another at Susa in Piedmont, to commemorate a similar act of the same Emperor. Trajan built one on the pier at Ancona, when he restored that harbour, and another at Beneventum, when he repaired the Via Appia, represented in the woodcut here given (No. 206). It is one of the best preserved as well as most graceful of its class in Italy. The arch of the Sergii at Pola in Istria



206. Arch of Trajan at Beneventum. From a plate in Gailhabaud's Architecture.

was the circular apartment (D), covered by the dome above mentioned which, from its situation and the openness of its arrangements, must have contained a cold bath or baths. There are four other rooms on this side, which seem also to have been cold baths. None of these points have, however, yet been satisfactorily settled, nor the uses of the smaller subordinate rooms; every restorer giving them names according to his own ideas. For our purpose it suffices to know that no groups of state apartments in such dimensions, and wholly devoted to purposes of display and recreation, were ever before or since grouped together under one roof. The taste of many of the decorations would no doubt be faulty, and the architecture shows those incongruities inseparable from its state of transition, but such a collection of stately halls must have made up a whole of greater splendour than we can easily realize from their bare and weather-beaten ruins, or from anything else to which we can compare them. Even allowing for their being almost wholly built of brick, and for their being disfigured by the bad taste inseparable from everything Roman, there is nothing in the world which for size and grandeur can compare with these imperial places of recreation.[1]

[1] St George's Hall at Liverpool is the most exact copy in modern times of a part of these Baths. The Hall itself is a reproduction both in scale and design of the central hall of Caracalla's Baths, but improved in detail and design, having five bays instead of only three. With the two courts at each end, it makes up a suite of apartments very similar to those found in the Roman examples. The whole building, however, is less than one-fourth of the size of the central mass of a Roman bath, and therefore gives but little idea of the magnificence of the whole.

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Triumphal arches were among the most peculiar of the various forms of art which the Romans borrowed from those around them, and used with that strange mixture of splendour and bad taste which characterises all their works.

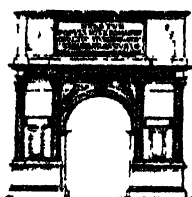
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206. Arch of Trajan at Beneventum. From a plate in Gailhabaud's Architecture.

seems also to have been erected for a like purpose. That of Hadrian at Athens, and another built by him at Antinoë in Egypt, were monuments merely commemorative of the benefits which he had conferred on those cities by the architectural works he had erected within their walls. By far the most important application of these gateways, in Rome at least, was to commemorate a triumph which may have passed along the road over which the arch was erected, and perhaps in some instances they may have been erected beforehand, for the triumphal processions to pass through, and of which they would remain memorials.

The Arch of Titus at Rome is well known for the beauty of its detail, as well as from the extraordinary interest which it derives from having been erected to commemorate the conquest of Jerusalem, and consequently representing in its bassi-rilievi the spoils of the Temple. From the annexed elevation, drawn to the usual scale, it will be seen that the building is not large, and it is not so well proportioned as that at Beneventum, represented in the last woodcut, the attic being overpoweringly high. The absence of sculpture on each side of the arch is also a defect, for the real merit of these buildings is their being used as frameworks for the exhibition of sculptural representations of the deeds they were erected to commemorate.



Arch of Titus at Rome.
Scale 50 ft. to 1 in.

In the later days of the Empire two side-arches were added for foot passengers, in addition to the carriage-way in the centre. This added much to the splendour of the edifice, and gave a greater opportunity for sculptural decoration than the single arch afforded. The Arch of Septimius Severus, represented to the same scale in woodcut No. 208, is perhaps the best specimen of the class. That of Constantine is very similar and in most respects equal to this — a merit which it owes to most of its sculptures being borrowed from earlier monuments.



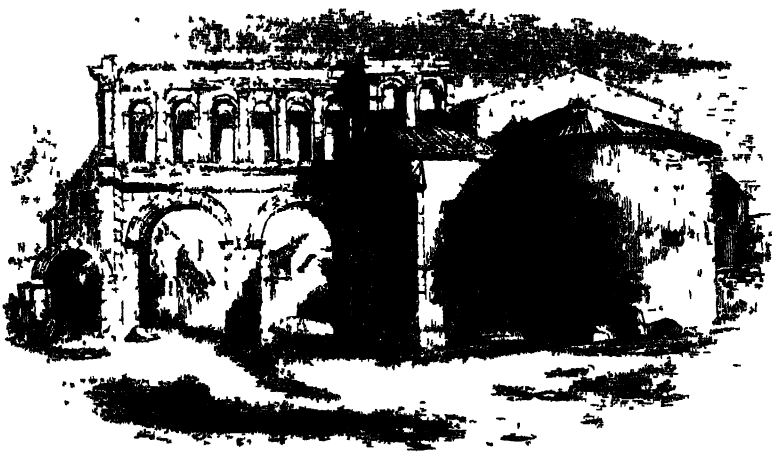
Arch of Septimius Severus.
Scale 50 ft. to 1 in.

More splendid than either of these is the arch at Orange. It is not known by whom it was erected, or even in what age: it is, however, certainly very late in the Roman period, and shows a strong tendency to treat the order as entirely subordinate, and to exalt the plain masses into that importance which characterises the late transitional period. Unfortunately its sculptures are so much destroyed by time and violence that it is not easy to speak with certainty as to their age; but more might be done than has hitherto been effected to illustrate this important monument.

At Rheims there is an arch which was probably much more magnificent than this. When in a perfect state it was 110 ft. in width, and had three openings, the central one 17 ft. wide by 40 ft. high, and those on each side 10 ft. in width, each separated by two Corinthian columns. From the style of the sculpture it certainly was of the last age of the Roman Empire, but, having been built into the walls of the city, it has been so much injured that it is difficult to say what its original form may have been.

Besides these there is in France a very elegant single-arched gateway at St. Rémi, similar to and probably of the same age as that at Beneventum another at Cavallon, and one at Carpentras, each with one arch. There is also one with two similar arches at Langres; and one, the Porta Nigra, at Besançon, which shows so complete a transition from the Roman style that it is difficult to believe that it does not belong to the renaissance.

There still remains in France another class of arches, certainly not triumphal, but so similar to those just mentioned that it is difficult to separate the one from the other. The most important of these are two at Autun, called respectively the Porte Arroux and the Porte St. André, a view of which is given in woodcut No. 209. Each of these

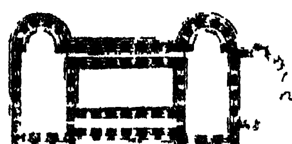


209. Porte St. André at Autun. From Laborde's 'Monumens de la France.'

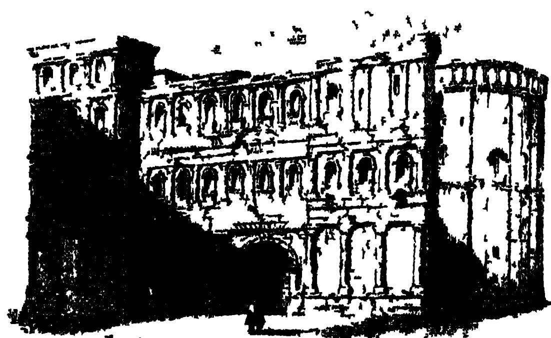
has two central large archways for carriages, and one on each side for foot passengers. Their most remarkable peculiarity is the light arcade or gallery that runs across the top of them, replacing the attic of the Roman arch, and giving a degree of lightness combined with height that these never possessed. These gates were certainly not meant for defence, and the apartment over them could scarcely be applied to utilitarian purposes, so that we may, I believe, consider it as a mere ornamental appendage, or as a balcony for display on festal occasions. It

appears, however, to offer a better hint for modern arch-builders than any other example of its class.

Even more interesting than these gates at Autun is that called the Porta Nigra at Trèves, for though far ruder in style and coarser in detail, as might be expected from the remoteness of the province where it is found, it is far more complete. Indeed it is the only example of its class which we possess in anything like its original state. Its front consists of a double archway surmounted by an arcaded gallery, like the French examples. Within this is a rectangular court which seems never to have been roofed, and beyond this a second double archway similar to the first. At the ends of the court, projecting each way beyond the face of the gateway and the gallery surmounting it, are 2 wings 4 stories in height, containing a series of apartments in the form of small basilicas, all similar to one another, and measuring about 55 ft by 22. It is not easy to understand how these were approached, as there is no stair and no place for one. Of course there must have been some mode of access, and perhaps it may have been on the site of the apse, shown in the plan (woodcut No. 210), which was added when the building was converted into a church in the middle ages. These apartments were probably originally used as courts or chambers of justice, thus realising, more nearly than any other European example I am acquainted with, the idea of a gate of justice.



210 Plan of Porta Nigra at Trèves. Scale 100 ft to 1 in.



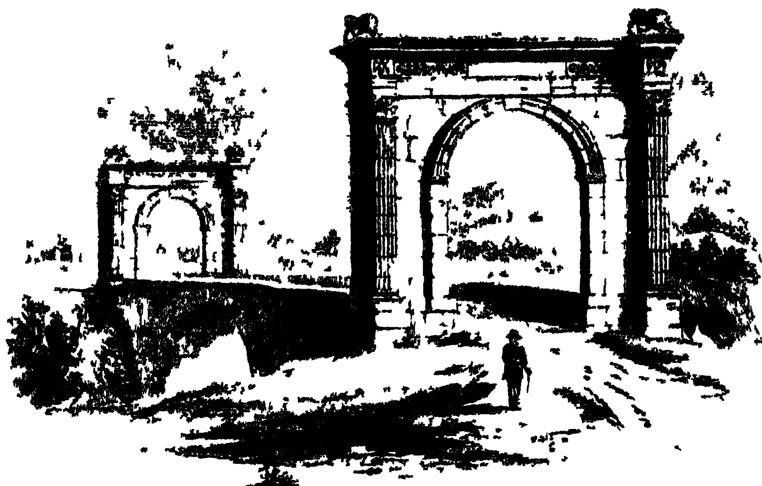
View of the Porta Nigra at Trèves.

Notwithstanding its defects of detail there is a variety in the outline of this building and a boldness of profile that render it an extremely pleasing example of the style adopted, and though exhibiting many of the faults incidental to the design of the Colosseum, it possesses all that repetition of parts and Gothic feeling of design which give such value to its dimensions, though these are far from being contemptible, the building being 115 ft. wide by 95 in height to the top of the wings.

There probably were many similar gates of justice in the province,

but all have perished, unless we except those at Autun just described. I am convinced that at that place there were originally such wings as those at Trèves, and that the small church, the apse of which is seen on the right hand (woodcut No 209), stands upon the foundations of one of these. A slight excavation on the opposite side would settle this point at once. If it could be proved that these gateways at Autun had such lateral adjuncts, it would at once explain the use of the gallery over the arch, which otherwise looks so unmeaning, as a passage connecting the two wings together.

Another form also is that of an arch at the entrance of a bridge, generally bearing an inscription commemorative of its building. Its purpose is thus closely connected with that of the arches before mentioned which commemorate the execution of roads. Most of the great bridges of Italy and Spain were so adorned, but unfortunately they have either been used as fortifications in the middle ages, or removed in modern times to make way for the increased circulation of traffic. That built by Trajan on his noble bridge at Alcantara in Spain is well known, and there exists a double arched bridge at Saintes, in the south of France. The most elegant and most perfect specimen, however, of this class is that of St Chamas in Provence, represented in the woodcut No 212. It consists of 2 arches, one at each end of the bridge, of



212 Bridge at St Chamas From Laborde's Monuments de la France

singular elegance of form and detail. Although it bears a still legible inscription, it is uncertain to what age it belongs, probably that of the Antonines, and I should account for the purity of its details by the Greek element that pervades the south of France. Whether this is so or not, it is impossible not to admire not only the design of the whole bridge with its 2 arches, but the elegance with which the details have been executed.

Used in this mode as commencements of roads, or entrances to bridges, or as festal entrances to unfortified towns, there are perhaps no monuments of the second class more appropriate or more capable of architectural expression than these arches, though all of them have been more or less spoiled by an incongruous order being applied to them. Used, however, as they were in Rome, as monuments of victory, without offering even an excuse for a passage through them, not only is the taste displayed more than questionable, but the manner in which they were cut up by broken cornices and useless columns placed on tall pedestals, and with other trivial details highly objectionable, depriving them as it did of that largeness of design which is the only true merit and peculiar characteristic of Roman art, while that exquisite elegance with which the Greeks knew so well how to dignify even the most trivial objects was entirely lost.

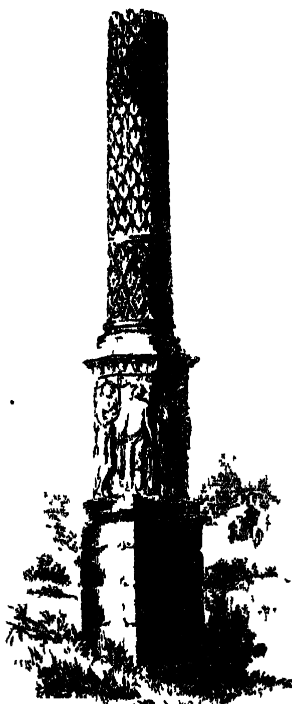
Pillars of Victory.

Pillars of Victory are a class of monuments which seem to have been used in the East in very early times, though their history it must be confessed is somewhat fragmentary and uncertain, and they seem to have been adopted by the Romans in those provinces where they had been employed by the earlier inhabitants. Whatever the original may have been, the Romans were singularly unsuccessful in their application of the form. They never, in fact, rose above the idea of taking a column of construction, magnifying it, and placing it on a pedestal without any attempt to modify its details or hide the original utilitarian purpose for which the pillar was designed. When they attempted more than this, they failed entirely in elaborating any new form at all worthy of admiration. The Columna Rostrata, or that erected to celebrate naval victories, was, so far as we can judge from representations (for no perfect specimen exists), one of the ugliest and clumsiest forms of pillar it is possible to conceive.

Of those of Victory, one of the most celebrated is that erected by Diocletian at Alexandria. A somewhat similar one exists at Arsinoe, erected by Alexander Severus, and a third at Mylassa in Caria. All these are mere Corinthian pillars of the usual form, and with the details of those used to support entablatures in porticos. However beautiful these may be in their proper place, they are singularly inappropriate and ungraceful when used as minarets or single columns.

There are two in Rome not quite so bad as these, both being of the Doric order. Had the square abacus in these been cut to a round form, and ornamented with an appropriate railing, we might almost have forgotten their original, and have fancied that they really were round towers with balconies at the top. The great object of their erection was to serve as vehicles for sculpture, though, as we now see them, or as they are caricatured at Paris and elsewhere, they are little more than

instances of immense labour bestowed to very little purpose. As originally used, these pillars were placed in small courts surrounded by open porticos, whence the spectator could at two or perhaps at three different levels examine the sculpture at his leisure and at a convenient distance, while the absurdity of the pillar supporting nothing was not apparent, from its not being seen from the outside. This arrangement is explained in woodcut No. 191, which is a section through the basilica of Trajan, showing the position of his column, not only with reference to that building, but to the surrounding colonnade. The same was almost certainly the case with the pillar of Marcus Aurelius, which, with slight modifications, seems to have been copied from that of Trajan; but even in the most favourable situations no monuments can be less worthy of admiration or of being copied than these.



Column at Cussi. From Laborde, Monumens de la France.

A far better specimen of this class is that at Cussi, near Beaune, in France. It probably belongs to the time of Aurelian, but it is not known either by whom it was erected or what victory it was designed to celebrate; still that it is a pillar of victory is undoubted, and its resemblance to pillars raised with the same object in India is quite striking.

The arrangement of the base serving as a pedestal for 8 statues is not only elegant but appropriate. The ornament which covers the shaft takes off from the idea of its being a mere pillar, and at the same is so subdued as not to break the outline or interfere with constructive propriety.



Supposed Capital of Column at Cussi.

The capital, of the Corinthian order, is found in the neighbourhood used as the mouth of a well. In its original position it no doubt had a hole through it, which being enlarged suggested its application to its present ignoble purpose, the hole being no doubt intended either to receive or support the statue or emblem that originally crowned the monument, but of that no trace now remains.

There cannot be a more natural mode of monumental expression than that of a simple upright stone set up by the victors to comme-

morate their prowess and success. Accordingly steles or pillars erected for this purpose are found everywhere, and take shapes as various as the countries where they stand, or as the people who erected them; but nowhere was their true architectural expression so mistaken as in Rome, where, by perverting a feature designed for one purpose to a totally different use, an example of bad taste was given till then unknown, though in our days it has become not uncommon.

Tombs.

In that strange collection of the styles of all nations, which, mingled together, makes up the sum of Roman art, nothing strikes the architectural student with more astonishment than the number and importance of their tombs. If the Romans are of Aryan origin, as is generally assumed, they are the only people of that race among whom tomb building was not utterly neglected. The importance of the tombs among the Roman remains proves one of two things. Either a considerable proportion of Etruscan blood was mixed up with that of the dominant race in Rome, or the fierce and inartistic Romans, having no art of their own, were led blindly to copy that of the people among whom they were located.

Of the tombs of Consular Rome nothing remains except perhaps the sarcophagus of Scipio, and it is only on the eve of the Empire that we meet with the well-known one of Cæcilia Metella, the wife of Crassus, which is not only the best specimen of a Roman tomb now remaining to us, but the oldest building of the imperial city of which we have an authentic date. It consists of a bold square basement about 100 ft. square,[1] which was originally ornamented in some manner not now intelligible. From this rose a circular tower about 94 ft. in diameter, of very bold masonry surmounted by a frieze of ox-skulls with wreaths joining them, and a well-profiled cornice: 2 or 3 courses of masonry above this seem to have belonged to the original work; and above this, almost certainly, in the original design rose a conical roof, which has perished. The tower having been used as a fortress in the middle ages, battlements have been added to supply the place of the roof, and it has been otherwise disfigured, so as to detract much from its beauty as now



Tomb of Cæcilia Metella.

[1] I am extremely uncertain about the dimensions of this building: these are the best I can find.

seen. Still we have no tomb of the same importance so perfect, nor one which enables us to connect the Roman tombs so nearly with the Etruscan. The only addition in this instance is that of the square basement or podium, though even this was not unknown at a much earlier period, as for instance in the tomb of Aruns (woodcut No. 168). The exaggerated height of the circular base is also remarkable. Here it rises to be a tower instead of a mere circular base of stones for the earthen cone of the original sepulchre. The stone roof which probably surmounted the tower was a mere reproduction of the original earthen cone.

Next in age and importance was the tomb of Augustus in the Campus Martius. It is now so completely ruined that it is extremely difficult to make out its plan, and those who drew and restored it in former days were so careless in their measurement that even its dimensions cannot be ascertained: it appears, however, to have consisted of a circular basement about 300 ft. in diameter, and about 60 ft. in height, adorned with 12 large niches. Above this rose a cone of earth as in the Etruscan tombs, not smooth like those, but divided into terraces, which were planted with trees. We also learn from Suetonius that Augustus laid out the grounds around his tomb and planted them with gardens for public use during his lifetime. More like the practice of a true Mogul in the East than the ruler of an Indo-Germanic people in Europe.

This tomb, however, was far surpassed, not only in solidity but in splendour, by that which Hadrian erected for himself on the banks of the Tiber, now known as the Mole of Hadrian, or more frequently the Castle of St. Angelo. The basement of this great tomb was a square about 340 ft. each way, and about 75 ft. high. Above this rose a circular tower 235 ft. in diameter and 140 in height. The whole was crowned probably by a dome, or at least by a curvilinear roof, which with its central ornament must have risen to a height of not less than 300 ft. The circular or tower-like part of this splendid building was ornamented with columns, but in what manner restorers have not been quite able to agree, some making 2 storeys, both with pillars, some, one of pillars and the upper one of pilasters. It would require more correct measurements than we have to enable us to settle this point, but it seems probable that there was only one range of columns on a circular basement of some height surmounted by an attic of at least equal dimensions. The order might have been 70 ft., the base and attic 38 ft. each.

Internally the mass was nearly solid, having only 2 small sepulchral chambers, one above the other, in the centre. There may, however, have been a circular apartment under the dome, though this is hardly probable.

Besides these there was another class of tombs in Rome, called

columbaria, generally oblong or square rooms below the level of the ground, the walls of which were pierced with a great number of little pigeon-holes or cells just of sufficient size to receive an urn containing the ashes of the body, which had been burnt according to the usual Roman mode of disposing of the dead. Externally of course they had no architecture, though some of the more important family sepulchres of this class were adorned internally with pilasters and painted ornaments of considerable beauty.



Columbarium near the Gate of St Sebastian, Rome

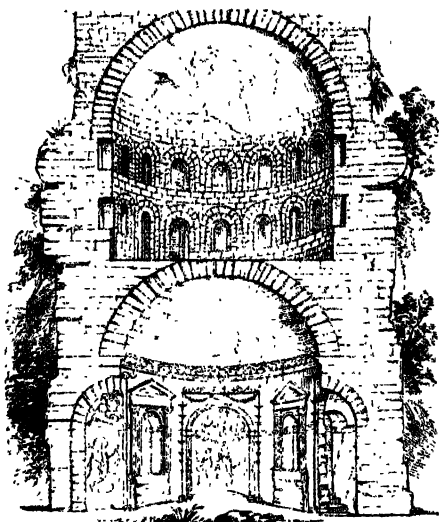
In the earlier ages of the Roman empire these two forms of tombs characterised with sufficient clearness the two races, each with their distinctive customs, which made up the population of Rome. Long before its expiration the two were fused together so thoroughly that we lose all trace of the distinction, and a new form of tomb arose compounded of the two older, which became the typical form with the early Christians, and from them passed to the Saracens and other eastern nations.

The new form of tomb retained externally the circular form of the Pelasgic sepulchre, though constructive necessities afterwards caused it to become polygonal. Instead however of being solid, or nearly so, the walls were only so thick as was necessary to support the dome, which became the universal form of roof of these buildings.

The sepulchres of Rome have as yet been far too carelessly examined to enable us to trace all the steps by which the transformation took place, but as a general rule it may be stated that the gradual enlargement of the central circular apartment is almost a certain test of the age of a tomb; till at last, before the age of Constantine, they became in fact representations of the Pantheon on a small scale, almost always with a crypt or circular vault below the principal apartment.

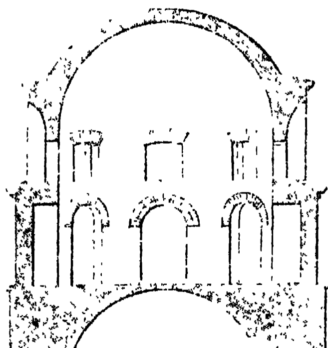
One of the most curious transitional specimens is that found near San Vito, represented in the woodcut No. 217. Here, as in all the earlier specimens, the principal apartment is the lower in the square basement. The upper, which has lost its decoration, has the appearance of having been hollowed out of the frustum of a gigantic Doric column, or rather out of a solid tower like the central one of the tomb of Aruns (woodcut No. 168). Shortly after the age of this sepulchre the lower

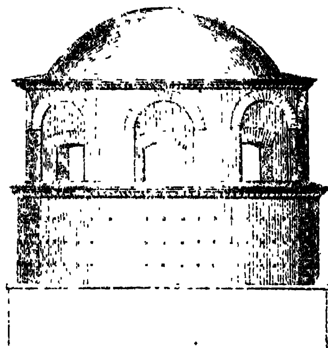
apartment became a mere crypt, and in such examples as those of the sepulchres of the Cornelia and Tossia families we have merely miniature Pantheons somewhat taller in proportion, and with a crypt. This is still more remarkable in a building called the Torre dei Schiavi, which has had a portico attached to one side, and in other respects looks very like a direct imitation of that celebrated temple. It seems certainly, however, to have been built for a tomb.



217 Section of Sepulchre at San Vito. No scale.

Another tomb, very similar to that of the Tossia family, is called that of Sta. Helena, the mother of Constantine. If it is not hers, it belongs at any rate to the last days of the Empire, and may be taken as a fair specimen of the tombs of that age and class. It is a vast transition from the tomb of Cæcilia Metella, though, like all the changes introduced by the Romans, it shows the never-failing tendency to transfer all architectural embellishments from the exterior to the interior of every style of building.





218. Section and Elevation of Tomb of Sta. Helena, Rome. No scale.

It consists of a basement about 100 ft. square, containing the crypt. On this stands a circular tower in two storeys. In the lower storey is a circular apartment about 66 ft. in diameter, surrounded by 8 niches; in the upper the niches are external, and each is pierced with a window. The dimensions of the tomb are nearly the same as those of Cæcilia Metella, and it thus affords an excellent opportunity of comparing the

two extremes of the series, and of contrasting the early Roman with the early Christian tomb.

The typical example of a sepulchre of this age is the tomb or baptistery of Sta. Costanza, the daughter of Constantine (woodcut No. 268). In this building the pillars that adorned the exterior of such a mausoleum, for instance, as that of Hadrian, are introduced internally. Externally the building never can have had much ornament. But the breaks between the lower aisle and the central compartment, pierced with the clerestory, must have had a very pleasing effect. In this example there is still shown a certain degree of timidity, which does not afterwards re-appear. The columns are coupled and are far more numerous than they need have been, and are united by a fragment of an entablature, as if the architect had been afraid to place his vault directly on the capitals. Notwithstanding these defects, it is a pleasing and singularly instructive example of a completed transformation, and is just what we miss in those secular buildings for which the Christians had no use.

Another building, which is now known as the Lateran Baptistery (woodcut No. 267), was also undoubtedly a place of sepulture, though whether it is rightly ascribed to Constantine, and was intended by him for his own tomb, may be questioned. Here the central apartment, never having been designed to support a dome is of a far lighter construction, an upper order of pillars being placed on the lower, with merely a light architrave and frieze running between the two orders, the external walls being slight in construction and octagonal in plan.[1] We must not in this place pursue any further the subject of the transition of style, as we have already trespassed within the pale of Christian architecture and passed beyond the limits of heathen art. So gradual, however, was the change, and so long in preparation, that it is impossible to draw the line exactly where the separation actually took place between the two.

TEMPLE OF MINERVA MEDICA.

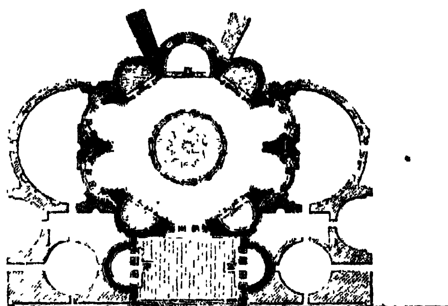
One important building remains to be mentioned before leaving this part of the subject. It commonly goes by the name of the Temple of Minerva Medica, though this is certainly a misnomer. Recently it has become the fashion to assume that it was the hall of some bath; no building of that class, however, was known to exist in the neighbourhood, and it is extremely improbable that any should be found outside the Servian walls in this direction; moreover, it is wanting in all the necessary accompaniments of such an establishment.

It is here placed with the tombs because its site is one that would justify its being so classed, and its form being just such as would be applicable to that purpose and to no other. It is not by any means certain,

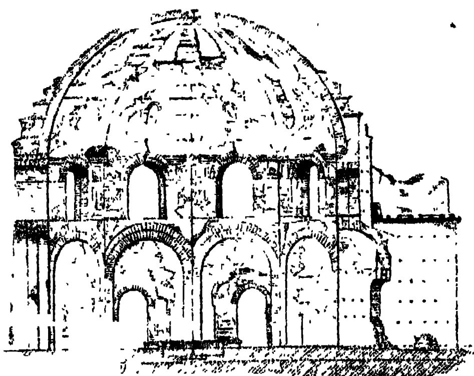
[1] These two buildings are described further on (p. 383) as Christian edifices.

however, that it is a tomb, though there does not seem to be any more probable supposition. It certainly belongs to the last days of the Roman Empire, if indeed it be not a Christian building, which I am very much inclined to believe it is, for, on comparing it with the Baptistery of Constantine and the tomb of Sta. Costanza, it shows a considerable advance in construction on both these buildings, and a greater similarity to San Vitale at Ravenna, and other buildings of Justinian's time, than to anything else now found in Rome.

As will be seen from the plan and section (woodcuts Nos. 219 and 220), it has a dome, 80 ft. in diameter, resting on a decagon of singularly light and elegant construction. Nine of the compartments contain niches which give great room on the floor, as well as great variety and lightness to the general design. Above this is a clerestory of 10 well-proportioned windows, which give light to the building, perhaps not in so effective a manner as the one eye of the Pantheon, though by a far more convenient arrangement to defy the elements for a people who did not possess glass. So far as I know, all the domed buildings erected by the Romans up to the time of Constantine, and indeed long afterwards, were circular in the interior, though, like the temple built by Diocletian at Spalatro, they were sometimes octagonal externally. This, however, is a polygon both internally and on the outside, and the mode in which the dome is placed on the polygon shows the first rudiments of the pendentive system, which was afterwards carried to such perfection by the Byzantine architects, but



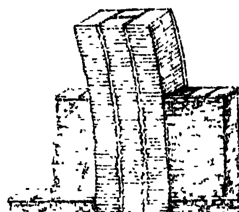
2 of Minerva Medica at R From Isabelle's 'Edifices Circulaires. Scale 100 ft. to



Section of Minerva Medica. Scale 50 ft. to 1 in.

is nowhere else to be found in Rome. It probably was for the purpose of somewhat diminishing the difficulties of this construction that the architect adopted a figure with 10 instead of 8 sides.

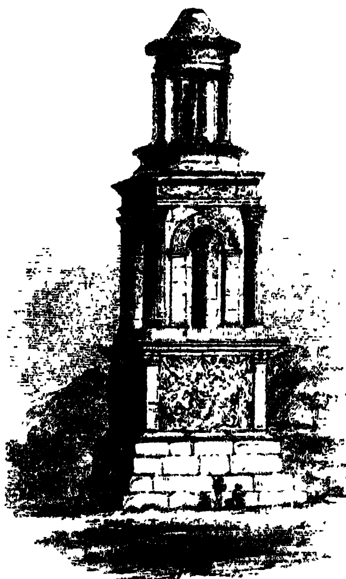
This, too, is, I believe, the first building in which buttresses are applied so as to give strength to the walls exactly at the point where it is most wanted. By this arrangement the architect was enabled to dispense with nearly one-half the quantity of material that was thought necessary when the dome of the Pantheon was constructed, and which he must have employed had he copied that building. Besides this the dome was ribbed with tiles, as shown in woodcut No. 221, and the space between the ribs filled in with inferior, perhaps lighter masonry, bonded together at certain heights by horizontal courses of tiles where necessary.



221. Rib of the Roof of the Minerva Medica at Rome.

Besides the lightness and variety which the base of this building derives from the niches, it is 10 ft. higher than its diameter, which gives to it that proportion of height to width, the want of which is the principal defect of the Pantheon. It is not known what the side erections are which are usually shown in the ground-plans, nor even whether they are coëval with the main central edifice. I suspect they have never been very correctly laid down.

Taking it altogether, the building is certainly, both as concerns construction and proportion, by far the most scientific of all those in ancient Rome, and in these respects as far superior to the Pantheon as it is inferior to that temple in size. Indeed there are few inventions of the middle ages that are not attempted here or in the Temple of Peace—but more in this than in the latter; so much so, indeed, that I cannot help believing that it is much more modern than is generally supposed.



222. Tomb at St. Remi. From Laborde's 'Monumens de la France.'

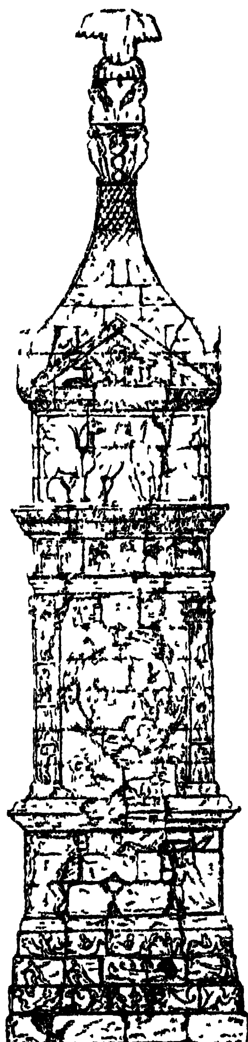
As might be expected from our knowledge of the race that inhabited the European provinces of the Roman empire, there are very few specimens of tombs of any importance to be found in them. One very

beautiful example exists at St. Rémi, represented in the annexed woodcut (No. 222). It can hardly, however, be correctly called a tomb, but is rather a cenotaph or a monument, erected, as the inscription on it tells us, by Sextus and Marcus, of the family of the Julii, to their parents, whose statues appear under the dome of the upper storey. There is nothing funereal either in the inscription or the form, nor anything to lead us to suppose that the bodies of the parents repose beneath its foundation.

The lower portion of this monument is the square basement which the Romans always added to the Etruscan form of tomb. Upon this stands a storey pierced with an archway in each face, with a 3-quarter pillar of the Corinthian order at every angle. The highest part is a circular colonnade, a miniature copy of that which we know to have once encircled Hadrian's Mole.

The open arrangement of the arches and colonnade, while it takes off considerably from the tomb-like simplicity becoming to such buildings, adds very much to the lightness and elegance of the whole. Altogether the building has much more of the aspiring character of Christian art than of the more solid and horizontal forms which were characteristic of the style then dying out.

Another monument of very singular and exceptional form is found at Igel, near Trèves, in Germany. It is so unlike anything found in Italy or indeed anything of the Roman age, that, were its date not perfectly known from the inscription upon it, one might rather be inclined to ascribe it to the age of Francis I. than to the latter days of the Roman Empire.



223 Monument at Igel, near Trèves. From Schmidt's 'Antiquities of Trèves.'

The form is graceful, though the pilasters and architectural ornaments seem somewhat misplaced. It is covered with sculptures from top to bottom. These, however, as is generally the case with Roman funeral monuments, have no reference to death, nor to the life or actions of the person to whom the monument is sacred, but are more like the scenes painted on a wall or ornamental stele anywhere. The principal object in the face represented in the woodcut is the sun, but the subjects are varied in each

face, and, though much time-worn, they still give a very perfect idea of the rich ornamentation of the monuments of the last age of the Empire.

The Tour Magne at Nîmes is too important a monument to be passed over, though in its present ruined state it is almost more difficult to explain than any other Roman remains that have reached our times. It consists of an octagonal tower 50 ft. in diameter, and now about 120 ft. high. The basement is extended beyond this tower on every side by a series of arches supporting a terrace to which access was obtained by an external flight of steps, or rather an inclined plane. From the marks in the walls it seems evident that this terrace originally supported a peristyle or, possibly, a range of chambers. Within the basement is a great chamber covered by a dome of rubble masonry to which no access could be obtained from without, but the interior may have been reached through the eye of the dome. From the terrace an important flight of steps lead upwards to what? It is almost impossible to refrain from answering, to a cella like those which crowned the Tomb Temples of Assyria. That the main object of the building was sepulchral seems hardly doubtful, but we have no other instance in Europe of a Tomb with such a staircase leading to a chamber above it.

That Marseilles was a Phœnician and then a Phocæan colony long before Roman times seems generally to be admitted, and that in the Temple of Diana (woodcuts Nos. 180 and 181) and in this building there is an Etruscan or Eastern element which can hardly be mistaken and may lead to very important ethnographical indications when more fully investigated and better understood.

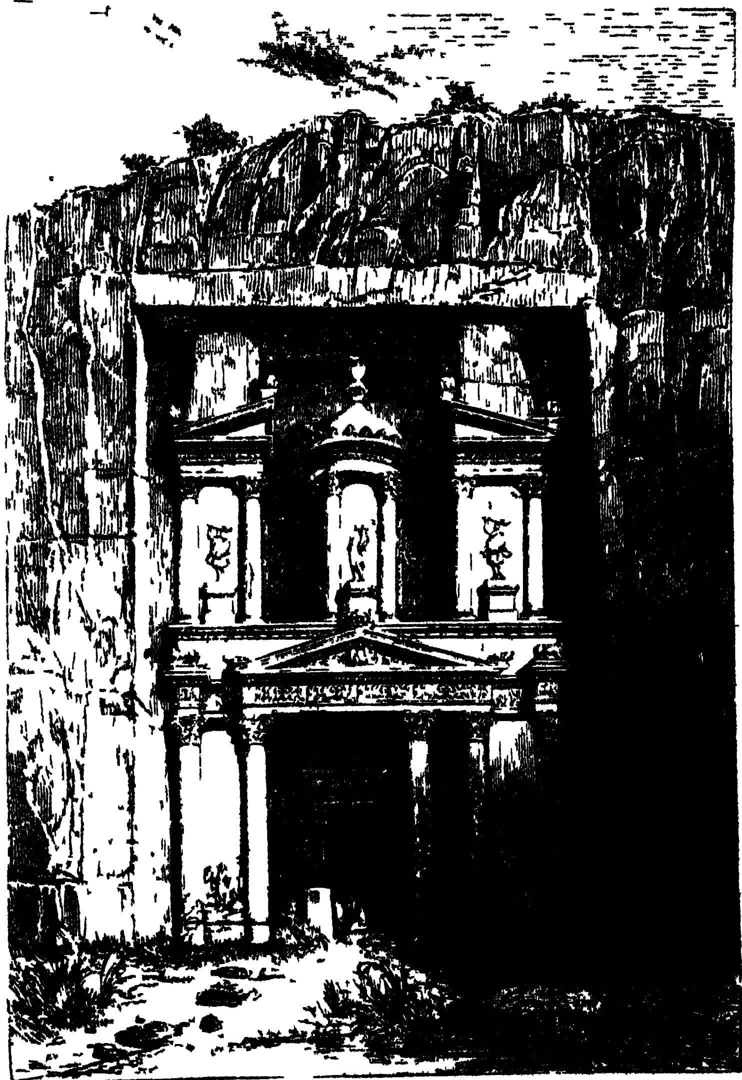
Eastern Tombs.

This scarcity of tombs in the western part of the Roman empire is to a great extent made up for in the east but the history of those erected under the Roman rule in that part of the world is as yet so little known that it is not easy either to classify or to describe them, and as nearly all those which have been preserved are cut in the rock, it is sometimes difficult—as with other rock-cut objects all over the world—to understand the form of building from which they were copied.

The three principal groups of tombs of the Roman epoch are those of Petra, Cyrene, and Jerusalem. Though many other important tombs exist in those countries, they are so little known that they must be passed over for the present.

From the time when Abraham was laid in the cave of Machpelah until after the Christian era, we know that burying in the rock was not the exception but the general practice among the nations of this part of the East. So far as can be known, the example was set by Egypt, which was the parent of much of their civilization. In Egypt the façades of their rock-cut tombs were—with the solitary exception of

those of Beni Hassan[1]—ornamented so simply and unobtrusively as rather to belie than to announce their internal magnificence. All the oldest Asiatic tombs seem to have been mere holes in the rock, wholly without architectural decorations.



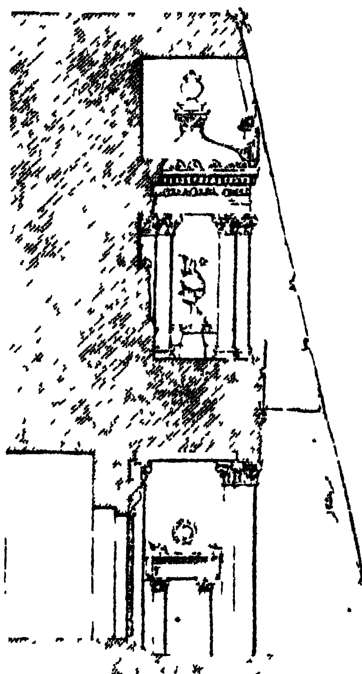
224 Khasne. From Laborde's 'Petra and Mount Sinai.'

We have seen, however, how the Persian kings copied their palace façades to adorn their last resting-places, and how about the same time

[1] See p 99, and woodcut 14

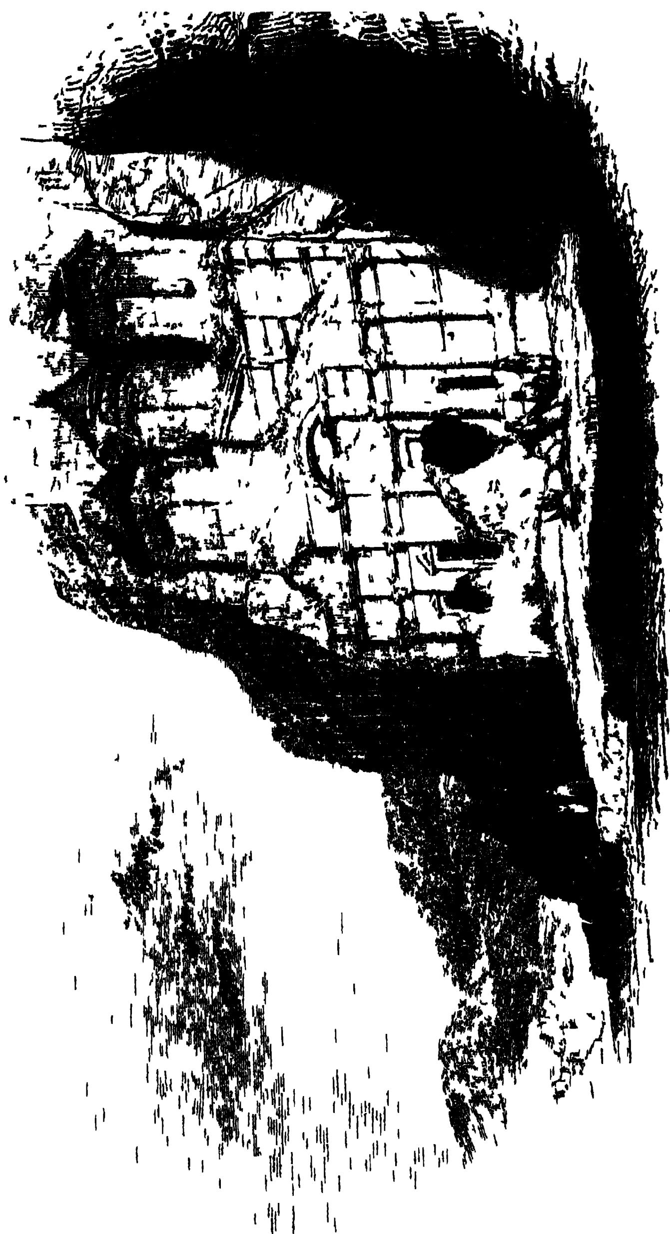
in Lycia the tomb builders copied, first their own wooden structures, and afterwards the architectural façades, which they had learned from the Greeks how to construct. But it was not till the Roman period that this species of magnificence extended to the places enumerated above; when to such an extent did it prevail at Petra as to give to that now deserted valley the appearance of a petrified city of the dead.

The typical and most beautiful tomb of this place is that called the Khasné or Treasury of Pharaoh represented in elevation and section in the annexed woodcuts Nos. 224 and 225. As will be seen, it consists of a square basement, adorned with a portico of four very beautiful Corinthian pillars, surmounted by a pediment of low Grecian pitch. Above this are three very singular turrets, the use and application of which it is extremely difficult to understand. The central one is circular, and is of a well understood sepulchral form, the use of which, had it been more important, or had it stood alone, would have been intelligible enough; but what are the side turrets? If one might hazard so bold a conjecture I would suggest that the original from which this is derived was a five turreted tomb, like that of Aruns (woodcut No. 168), or that of Alyattes at Sardis, which in course of time became translated into so foreign a shape as this, but where are the intermediate forms? and by whom and when was this change effected? Before forming any theories on this subject, it will be well to consider whether all those buildings really are tombs? Most of them undoubtedly are so; but may not the name *el Deir*, or the Convent, applied by the Arabs to one of the principal rock-cut monuments of Petra, be after all the true designation? Are none of them, in short, cells for priests, like the *viharas* found in India? All those who have hitherto visited these spots have assumed at once that everything cut in the rock must be a tomb, but I am much mistaken if this is really the case with all.



225. Section of Tomb at Khasné. From 'Mount Sinai,' p. 175.

To return however to the Khasné. Though all the forms of the architecture are Roman, the details are so elegant and generally so



226

Corinthian Tomb, Petra. From Laborde's 'Sinai,' p. 1..

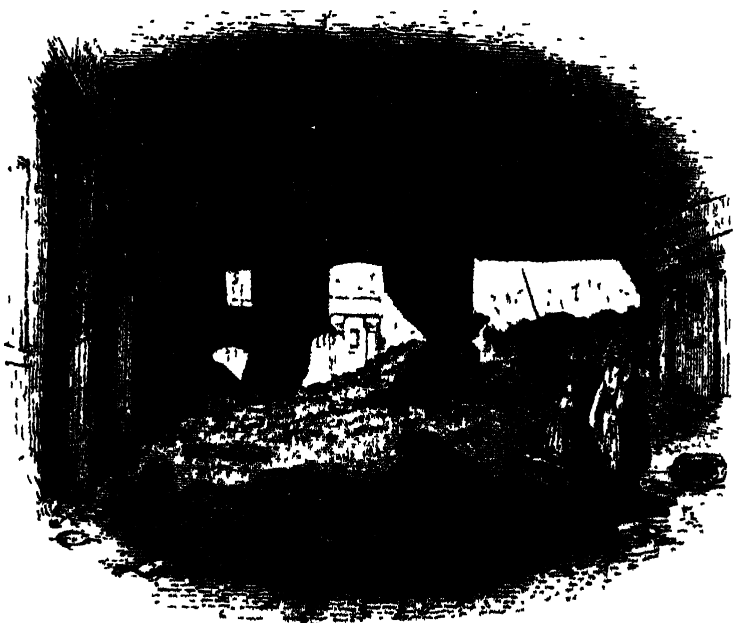
well designed as almost to lead to the suspicion that there must have been some Grecian influence brought to bear upon the work. The masses of rock left above the wings show how early a specimen of its class it is, and how little practice its designers could have had in copying in the rock the forms of their regular buildings.

A little further within the city is found another very similar in design to this, but far inferior to it in detail and execution, and showing at least a century of degradation, though at the same time presenting an adaptation to rock-cut forms not found in the earlier examples.

A third is that above alluded to, called *el Deir*. This is the same in general outline as the two former—of an order neither Greek nor Roman, but with something like a Doric frieze over a very plain Corinthian capital. In other respects it presents no new feature except the apparent absence of a door, and on the whole it seems, if finished, to deserve its name less than either of the other two.

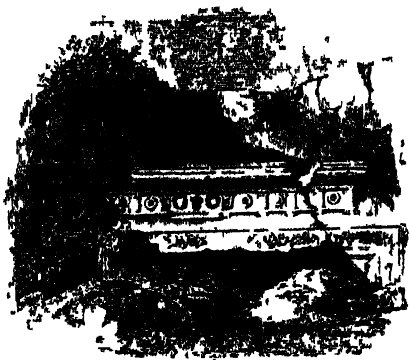
Perhaps the most singular object among these tombs, if tombs they are, is the flat façade with three storeys of pillars one over the other—slightly indicated in the left of the Corinthian tomb in the last woodcut (No. 226). It is like the proscenium of some of the more recent Greek theatres. If it was really the frontispiece to a tomb, it was totally unsuitable to the purpose, and is certainly one of the most complete misapplications of Greek architecture ever made.

Generally speaking, the interiors of these buildings are so plain that



Rock-cut interior at Petra. From Laborde's 'Sinai,' p. 196

travellers have not cared either to draw or measure them; one, however, represented in the annexed woodcut (No. 227), is richly ornamented, and, as far as can be judged from what is published, is as unlike a tomb as it is like a *vihara*. But, as before remarked, they all require re-examination before the purpose for which they were cut can be pronounced upon with any certainty.



227. Façade of Herod's Tombs. From a Photograph.

The next group of tombs is that at Jerusalem. These are undoubtedly all sepulchres. By far the greater number of them are wholly devoid of architectural ornament. To the north of the city is a group known as the tombs of the kings, with a façade of a corrupt Doric order, similar to some of the latest Etruscan tombs. These are now very much ruined, but still retain sufficient traces of the original design to fix their date within, or subsequently to, the Herodian period without much possibility of doubt.[1] A somewhat similar façade, but of a form more like the Greek Doric, found in the Valley of Jehoshaphat, bears the name of the Sepulchre of St. James.

Close to this is a square tomb known as that of Zechariah, not cut in the rock, but standing free. Each face is well adorned with Ionic pillars and square piers at the angles, the whole being crowned with a pyramidal roof. Perhaps this building should properly be called a cenotaph, as it is perfectly solid, and no cave or sepulchral vault has been found beneath it, though, judging from analogies, one might yet be found if properly looked for. A tomb with

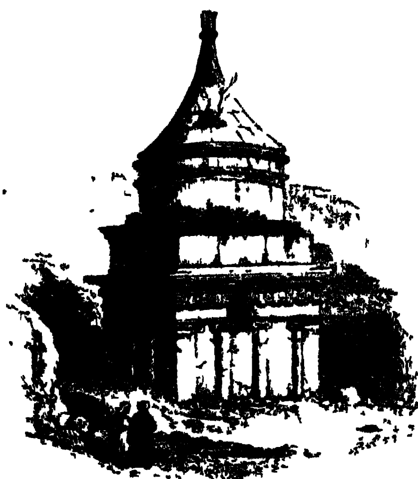


So-called "Tomb of Zechariah."

[1] M. de Saulcy has recently attempted to prove that these tombs are those of the kings of Judah from David downwards. Their architecture is undoubtedly as late as the Christian era, and the cover of the sarcophagus which is now in the Louvre under the title of that of David is probably of the same date, or if anything more modern.

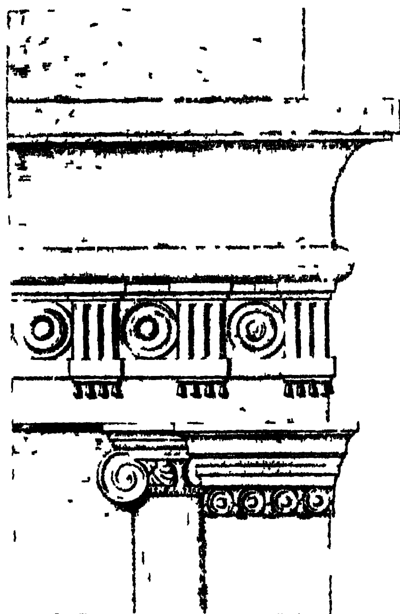
an architectural façade, similar to that of the so called Tomb of the Judges, does exist behind it cut in rock, and is consequently of more modern construction. It may be to mark this that the architectural structure was left.

Close to this is another identical with it in as far as the basement is concerned, and which is now popularly known as the Tomb of Absalom, but in this instance the pyramid has been replaced with a structural spire, and it is probable when this was done that the chamber which now exists in its interior was excavated.



230. The so called Tomb of Absalom.

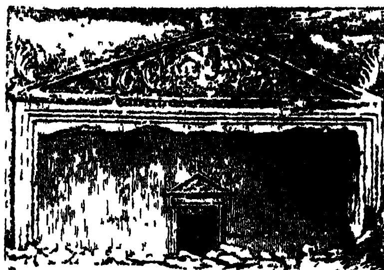
One of the remarkable points in these tombs is the curious jumble of the Roman orders which they present. The pillars and pilasters are Ionic, the architraves and frieze Doric, and the cornice Egyptian. The capitals and frieze are so distinctly late Roman, that we can feel no hesitation as to their date being either of the age of Herod or subsequent to that time. In an architectural point of view the cornice is too plain to be pleasing if not painted, it therefore may probably have been so.



231. Angle of Tomb of Absalom. From De Saulcy.

Another class of these tombs is represented by the so called Tomb of the Judges (woodcut No. 232). These are ornamented by a tympanum of a Greek or Roman temple filled with a scroll-work of rich but debased pattern, and is evidently derived from something similar, though Grecian in design. Its age is certainly inferior to that of the Tomb of Zechariah, as one of precisely similar design is found cut into the face of the rock out of which that monument was excavated.

The third group is that of Cyrene, on the African coast. Notwithstanding the researches of Admiral Beechey and of M. Pacho, and the still more recent explorations of Messrs. Smith and Porcher, they are still much less perfectly known to us than they should be. Their number is immense, and they almost all have architectural façades, generally consisting of two or more columns between pilasters like the grottos of Beni Hassan, or the tomb of St. James at Jerusalem. Many of them show powerful evidence of Greek taste, while some may be as old as the Grecian era, though the greater part are undoubtedly of Roman date, and the paintings with which many of them are still adorned are certainly Roman in design. Two of them are illustrated above (woodcuts Nos. 157 and 158). One as showing more distinct evidence of Greek taste and colour than is to be found elsewhere, though it is doubtful if it belongs to the Grecian period any more than the so-called Tomb of St. James at Jerusalem; the other, though of equally uncertain date, is interesting as being a circular monument built over a cave like that at Amrith (woodcut No. 114), and is the only other example now known. None of them have such splendid architectural façades as the Khasné at Petra, but the number of tombs which are adorned with architectural features is greater than in that city, and, grouped as they are together in terraces on the hill side, they constitute a necropolis which is among the most striking of the ancient world. Altogether the group somewhat resembles that at Castel d'Asso, but is more extensive and far richer in external architecture.[1]

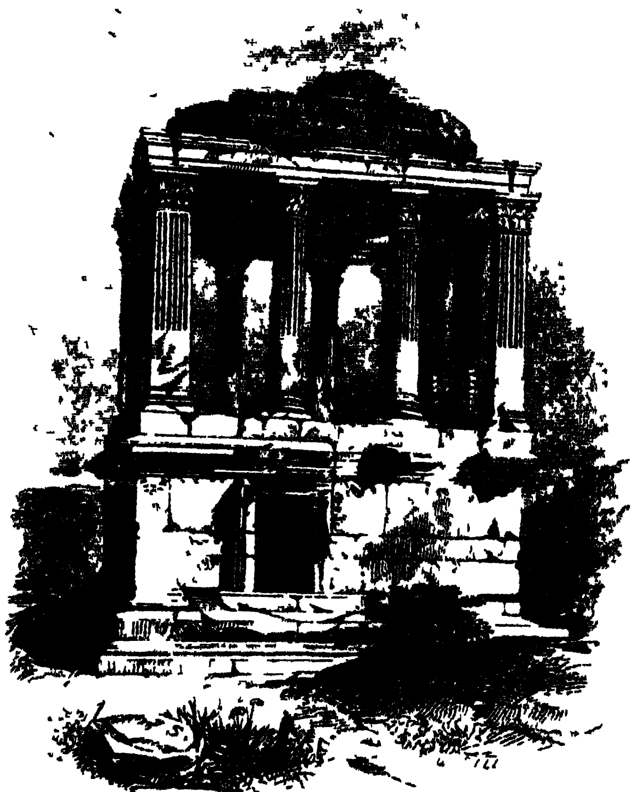


23 Façade of the Tombs of the Judges.

Time has not left us any perfect structural tombs in all these places, though there can be little doubt but they were once numerous. Almost the only tomb of this class constructed in masonry known to exist, and which in many respects is perhaps the most interesting of all, is found in Asia Minor, at Mylassa in Caria. In form it is something like the free standing rock-cut examples at Jerusalem. As shown in the woodcut (No. 233), it consists of a square base, which supports

[1] Though the dates of all these tombs at Cyrene are so uncertain, there seems little doubt that if any one thoroughly versed in the style were to visit the place, he could fix the age of all of them with approximate correctness. The one difficulty is, that a chronometric scale taken from the buildings at Rome, or even in Syria, will not suffice. Local peculiarities must be taken into account and allowed for, and this requires both time and judgment.

twelve columns, of which the eight inner ones support a dome, the outer four merely completing the square. The dome itself is constructed in the same manner as all the Jaina domes are in India (as will be explained hereafter), and, though ornamented with Roman details, is so unlike anything else ever built by that people, and is so completely and perfectly what we find re-appearing ten centuries afterwards in the far east that we are forced to conclude that it belongs to a style once prevalent and long fixed in these lands, though this one now stands as the sole remaining representative of its class

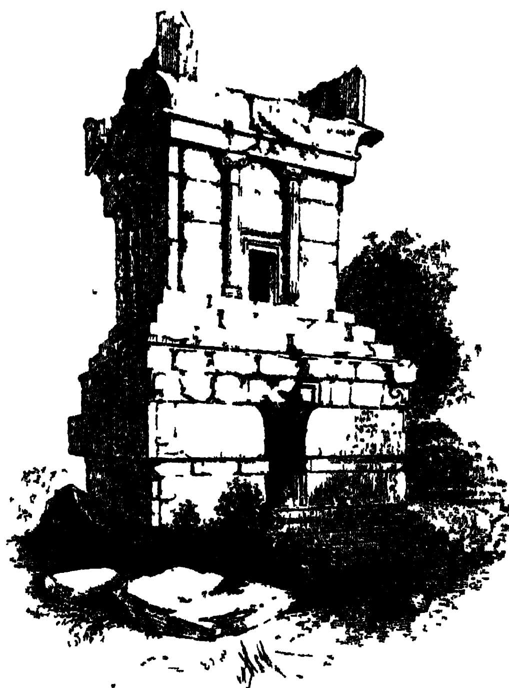


[illegible] Tomb at Mylassa.

Another example, somewhat similar in style, though remotely distant in locality, is found at Dugga, near Tunis, in Africa. This, too, consists of a square base, taller than in the last example, surmounted by twelve Ionic columns, which are here merely used as ornaments. There were probably square pilasters at the angles like that at Jerusalem (woodcuts Nos. 229, 230), while the Egyptian form of the cornice

is similar to that found in these examples, though with the omission of the Doric frieze.

It apparently originally terminated in a pyramid of steps like the mausoleum at Halicarnassus, and a large number of structural tombs which copied that celebrated model. Nothing of this now remains but the four corner stones which were architecturally most essential to accentuate the weak lines of a sloping pyramid in such a situation. Taken altogether, perhaps, no more graceful monument of its class has come down to our days than this must have been when complete. If it has a rival it is probably the tomb at St. Rémi in France (woodcut No. 222). They are both very beautiful, and well worthy the study of those who are designing monuments of this class.



244. Tomb at Dugga. From a drawing by F. Catherwood.

Domestic Architecture.

We know, not only from the descriptions and incidental notices that have come down to us, but also from the remains found at Pompeii and elsewhere, that the private dwellings of the Romans were characterised by that magnificence and splendour which we find in all their works, accompanied, probably, with more than the usual amount of bad taste. No palace except that at Spalatro has been preserved to our day, nor any building of a class coming under the head of domestic art; still, so much is to be learnt from what does remain, that it is impossible to pass over the subject altogether.

In Rome itself no ancient house—indeed no trace of a domestic edifice—exists except the Palace of the Cæsars on the Palatine Mount; and this even is now merely a heap of shapeless ruin, so much so

indeed as to have defied even the most imaginative of restorers to make anything of it except a vehicle for the display of their own ingenuity. The extent of these ruins, coupled with the descriptions that have been preserved, suffice to convince us that, of all the palaces ever built, either in the East or the West, this was probably the most magnificent and the most gorgeously adorned. Never in the world's history does it appear that so much wealth and power were at the command of one man as was the case with the Cæsars; and never could the world's wealth have fallen into the hands of men more inclined to lavish it for their own personal gratification than these emperors were. They could, moreover, ransack the whole world for plunder to adorn their buildings, and they could command the artists of Greece, and of all the subject kingdoms, to assist in rendering their golden palaces the most gorgeous that the world had then seen, or is likely ever to see again.

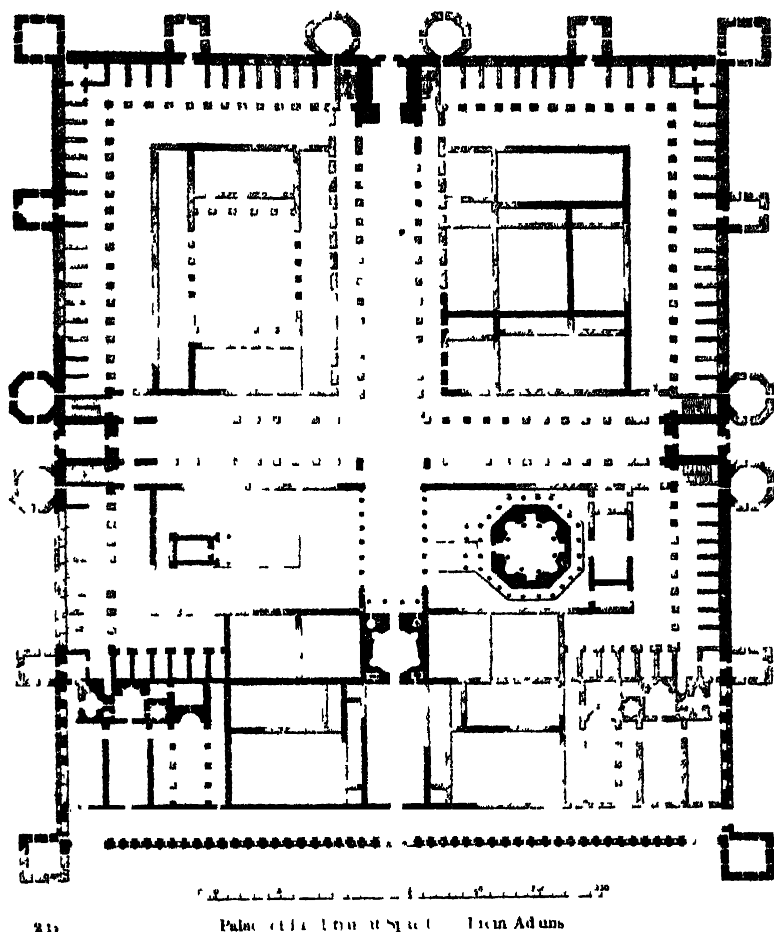
Notwithstanding all this splendour, this palace was probably as an architectural object inferior to the Thermæ. The thousand and one exigencies of private life render it impossible to impart to a residence - even to that of the world's master—the same character of grandeur as may be given to a building wholly devoted to show and public purposes. In its glory the Palace of the Cæsars must have been the world's wonder: but as a ruin deprived of its furniture and ephemeral splendour, it probably would present nothing either pleasing or instructive. We must not look for either beauty of proportion or perfection of construction, nor even for appropriateness of material, in the hastily constructed halls of men whose unbounded power was only equalled by the coarse vulgarity of their characters.

Spalatro.

The only palace of the Roman world of which sufficient remains are still left to enable us to judge either of its extent or arrangements is that which Diocletian built for himself at Spalatro, in Dalmatia, and in which he spent the remaining years of his life, after shaking off the cares of empire. It certainly gives us a most exalted idea of what the splendour of the imperial palace at Rome must have been when we find one emperor—certainly neither the richest nor the most powerful—building for his retirement, a villa in the country of almost exactly the same dimensions as the Escurial in Spain, and consequently surpassing in size, as it did in magnificence, most of the modern palaces of Europe.

It is uncertain how far it resembles or was copied from that in Rome, more especially as it must be regarded as a fortified palace, which there is no reason to believe that at Rome was, while its model would seem to have been the prætorian camp rather than any habitation

built within the protection of the city walls. In consequence of this its exterior is plain and solid, except on the side next the sea, where it was least liable to attack. The other three sides are only broken by the towers that flank them, and by those that defend the great gates which open in the centre of each face.



215. Palace of Diocletian at Spalato. From Adams.

The building is nearly a regular parallelogram, though not quite so. The south side is that facing the sea, and is 592 ft. from angle to angle; the one opposite being only 570 in length,[1] while the east and west sides measure each 698 ft., the whole building thus covering about 9½ English acres.

The principal entrance to the palace is on the north, and is called the

[1] By an oversight this difference is not expressed in the woodcut.



256. Golden Gateway at Spalatro. From Sir Gardner Wilkinson's 'Dalmatia.'

Golden Gate, and as represented in the annexed woodcut (No. 236), shows all the peculiarities of Roman architecture in its last stage. The horizontal architrave still remains over the doorway, a useless ornament, under a bold discharging arch, which usurps its place and does its duty. Above this, a row of Corinthian columns, standing on brackets, supports the archivolts of a range of niches — a piece of pleasing decoration, it must be confessed, but one in which the original purpose of the column has been entirely overlooked or forgotten.

Entering this portal we pass along a street ornamented with arcades on either side, till exactly in the centre of the building this is crossed at right angles by another similar street, proceeding from the so-called Iron and Brazen Gates, which are similar to the Golden Gate in design, but are far less richly ornamented.

These streets divided the building into four portions: those to the north are so much ruined that it is not now easy to trace their plan, or to say to what purpose they were dedicated; but probably the one might have been the lodgings of the guests, the other the residence of the principal officers of the household.

The whole of the southern half of the building was devoted to the palace properly so called. It contained two temples, as they are now designated. That on the right is said to have been dedicated to Jupiter, though, judging from its form, it would appear to have been designed rather as the mausoleum of the founder than as a temple of that god. As a temple it has been illustrated at a previous page.[1] Opposite to it is another small temple, dedicated, it is said, to Æsculapius.

Between these two is the arcade represented in woodcut No. 177, at the upper end of which is the vestibule, circular, as all buildings dedicated to Vesta, or taking their name from that goddess, should be. This opened directly on to a magnificent suite of nine apartments, occupying the principal part of the south front of the palace. Beyond these, on the right hand, were the private apartments of the emperor, and behind them his baths. The opposite side is restored as if it exactly corresponded, but this is more than doubtful; and, indeed, there is scarcely sufficient authority for many of the details shown in the plan, though they are, probably, on the whole, sufficiently exact to convey a general idea of the arrangements of a Roman imperial palace.

Perhaps, however, the most splendid feature in this palace was the great southern gallery, 515 ft. in length by 24 in width, extending along the whole seaward face of the building. Besides its own intrinsic beauty as an architectural feature, it evinces an appreciation of the beauties of nature which one would hardly expect in a Roman. This great gallery is the principal point in the design,

[1] See p. 288.

and commands a view well worthy the erection of such a gallery for its complete enjoyment.

Failing to discover any example of domestic architecture in Rome, we turn to Pompeii and Herculaneum, where we find numerous and most interesting examples of houses of all classes, except, perhaps, the best; for there is nothing there to compare with the Laurentian villa of Pliny, or with some others of which descriptions have come down to us. Pompeii, moreover, was far more a Grecian than a Roman city, and its buildings ought to be considered rather as illustrative of those of Greece, or at least of Magna-Græcia, than of anything found to the northward. Still these cities belonged to the Roman age, and, except in taste and in minor arrangements, we have no reason to doubt that the buildings did resemble those of Rome, at least to a sufficient extent for illustration.

With scarcely an exception, all the houses of Pompeii were of one storey only in height. It is true that in some we find staircases leading to the roof, and traces of an upper storey, but where this latter is the case the apartments would appear to have been places for washing and drying clothes, or for some such domestic purpose, rather than for living or even sleeping rooms. All the principal apartments were certainly on the ground floor, and as an almost inevitable corollary from this, they all faced inwards, and were lighted from court-yards or *atria*, and not from the outside; for, with a people who had not glass with which to glaze their windows, it was impossible to enjoy privacy or security without at the same time excluding both light and air, otherwise than by lighting their rooms from the interior. Hence it arose that in most instances the outside of the better class of houses was given up to shops and smaller dwellings, which opened on to the street, while the residence, with the exception of the principal entrance, and sometimes one or two private doors that opened outwards, was wholly hidden from view by them.

Even in the smallest class of tradesmen's houses which opened on the street, one apartment seems always to have been left unroofed to light at least two rooms on each side of it, used as bedrooms; but as the roofs of all are now gone, it is not always easy to determine which was so treated.

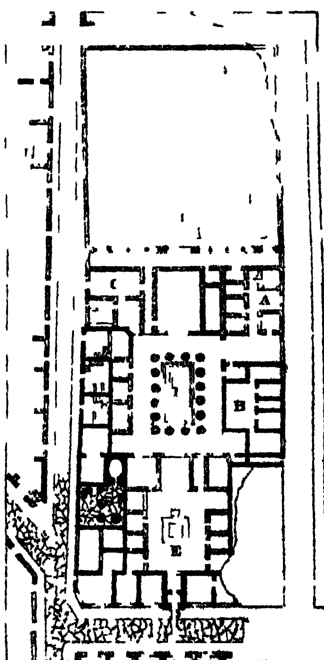
It is certain that, in the smallest houses which can have belonged to persons at all above the class of shopkeepers, there was always a central apartment, unroofed in the centre, into which the others opened. Sometimes this was covered by two beams placed in one direction, and two crossing them at right angles, framing the roof into nine compartments, generally of unequal dimensions, the central one being open, and with a corresponding sinking in the floor to receive the rain and drainage which inevitably came through it. When this court was of any extent, four pillars were required at the intersec-

tion of the beams, or angles of the opening, to support the roof. In larger courts eight, twelve, sixteen, or more columns were so employed, often apparently more as decorative objects than as required by the constructive necessities of the case, and very frequently the numbers of these on either side of the apartment did not correspond. Frequently the angles were not right angles, and the pillars were spaced unequally with a careless disregard of symmetry that strikes us as strange, though in such cases this may have been preferable to cold and formal regularity, and even more productive of grace and beauty. Besides those courts, there generally existed in the rear of the house another bounded by a dead wall at the further extremity and which in the smaller houses was painted to resemble the garden which the larger mansions possessed in this direction. The apartments looking on this court were of course perfectly private, which cannot be said of any of those looking inwards on the *atrium*.

The house called that of Pansa at Pompeii is a good illustration of these peculiarities, and as one of the most regular is generally chosen for the purpose of illustration.

In the annexed plan (woodcut No. 237) all the parts that do not belong to the principal mansion are shaded darker, except the doubtful part marked A, which may either have been a separate house, or the women's apartments belonging to the principal one, or what is even more probable, it may have been designed so as to be used for either purpose. B is certainly a separate house, and the whole of the remainder of the side of the front, and of the third side till we come opposite to A, was let off as shops. At C we have the kitchen and servants' apartments, with a private entrance to the street, and an opening also to the principal peristyle of the house.

Returning to the principal entrance or front door D, you enter through a short passage into the outer court E, on each side of which are several small apartments, used either by the inferior members of the household or by guests. A wider passage than the entrance leads from this to the peristyle, or principal apartment of the house. On the left hand are several small rooms, used no doubt as sleeping apartments, and were probably closed by half-doors



237. House of Pansa at Pompeii. From Gell's 'Pompeii.' Scale 100 ft. to 1 in.

open above and below, so as to admit air and light, while preserving sufficient privacy, for Roman tastes at least. In front and on the right hand are two larger rooms, either of which may have been the triclinium or dining room, the other being what we should call the drawing-room of the house. A passage between the kitchen and the central room leads to a verandah which crosses the whole length of the house, and is open to the garden beyond.

As will be observed, architectural effect has been carefully studied in this design, a vista nearly 300 ft. in length being obtained from the outer door to the garden wall, varied by a pleasing play of light and shade, and displaying a gradually increasing degree of spaciousness and architectural richness as we advance. All these points must have been productive of the most pleasing effect when complete, and of more beauty than has been attained in almost any modern dwelling of like dimensions.

Generally speaking the architectural details of the Pompeian houses are carelessly and ungracefully moulded, though it cannot be denied that sometimes a certain elegance of feeling runs through them that pleases in spite of our better judgment. It was not, however, on form that they depended for their effect; and consequently it is not by that that they must be judged. The whole architecture of the house was coloured, but even this was not considered so important as the paintings which covered the flat surfaces of the walls. Comparing the Pompeian decoration with that of the baths of Titus, the only specimen of the same age and class found in Rome, it must be admitted that the Pompeian examples show a more correct taste, not only in the choice but in the application of the ornaments used, though in the execution there is often that difference that might be expected between paintings executed for a private individual and those for the Emperor of the Roman world. Notwithstanding this, these paintings, so wonderfully preserved in this small provincial town, are even now the best specimens we possess of mural decoration. They excel the ornamentation of the Alhambra as being more varied and more intellectual. For the same reason they are superior to the works of the same class executed by the Moslems in Egypt and Persia, and they are far superior to the rude attempts of the Gothic architects in the middle ages; still they are probably as inferior to what the Greeks did in their best days as the pillars of the Pompeian peristyles are to the porticos of the Parthenon. But though doubtless far inferior to their originals, those at Pompeii are direct imitations of true Greek decorative forms; and it is through them alone that we can form even the most remote idea of the exquisite beauty to which polychromatic architecture once attained, but which we can scarcely venture to hope it will ever reach again.

One curious point, which has hitherto been too much overlooked, is that in Pompeii there are two perfectly distinct styles of decoration.

One of these is purely Etruscan, both in form and colour, and such as is only found in the tombs or on the authentic works of the Etruscans. The other is no less essentially Greek, both in design and colour: it is far more common than the Etruscan form, and is always easily to be distinguished from it. The last-mentioned or Greek style of decoration may be again divided into two varieties: one, the most common, consisting of ornaments directly copied from Greek models, the other with a considerable infusion of Roman forms. This Romanised variety of



238 Wall Decoration at Pompeii. From Rosengarten.

Greek decoration represents an attenuated and lean style of architecture, which could only have come into fashion from the continued use of iron or bronze, or other metallic substances, for pillars and other architectural members. Vitruvius reprobates it, and in a later age Cassiodorus speaks of it in a manner which shows that it was practised in his time. The general adoption of this class of ornament, both at Pompeii and in the baths of Titus, proves it to have been a very favourite style at that time. This being the case, it must have either been a repre-

sentation of metallic pillars and other architectural objects then in use, or it must have been copied from painted decorations. This is a new subject, and cannot be made clear, except at considerable length and with the assistance of many drawings. It seems, however, an almost undoubted fact that the Romans did use metal as a constructive material. Were it only that columns of extreme tenuity are represented in these paintings, we might be inclined to ascribe it to mere incorrect drawing; but the whole style of ornament here shown is such as is never found in stone or brick pillars, and which is only susceptible of execution in metal. Besides this, the pillars in question are always shewn in the decorations as though simply gilt or bronzed, while the representations of stone pillars are coloured. All this evidence goes to prove that a style of art once existed in which metal was generally employed in all the principal features, all material traces of which are now lost. The disappearance of all remains of such a style is easily accounted for by the perishable nature of iron from rust, and the value and consequent peculation induced by bronze and similar metals. We are, moreover, aware that much bronze has been stolen even in recent days, from the Pantheon and other buildings which are known to have been adorned with it.

Another thing which we learn from these paintings is, that though the necessities of street architecture compelled these city mansions to take a rectilinear outline, whenever the Roman architects built in the country they indulged in a picturesque variety of outline and of form which they carried perhaps as far as even the Gothic architects of the middle ages. This indeed we might have expected, from their carelessness in respect to regularity in their town-houses; but these were interiors, and were it not for the painted representations of houses we should have no means of judging how the same architects would treat an exterior in the country. From this source, however, we learn that in the exterior arrangements, in situations where they were not cramped by confined space, their plans were totally free from all stiffness and formality. In this respect Roman taste coincided with that of all true architecture in all parts of the world.

Each part of the design was left to tell its own tale and to express the use to which each apartment was applied, though the whole were probably grouped together with some reference to symmetry. There is certainly nothing in these ancient examples to justify the precise regularity which the architects of the Renaissance introduced into their classical designs, in which they sought to obliterate all distinction between the component parts in a vain attempt to make one great whole out of a great number of small discordant fragments.

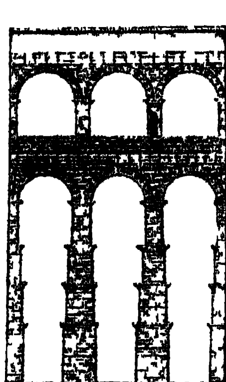
Bridges and Aqueducts.

Perhaps the most satisfactory works of the Romans are those which we consider as belonging to civil engineering rather than to architecture. The distinction, however, was not known in those earlier days. The Romans set about works of this class with a purpose-like earnestness that always ensured success, and executed them on a scale which leaves nothing to be desired; while at the same time they entirely avoided that vulgarity which their want of refinement allowed almost inevitably to appear in more delicate or more ornate buildings. Their engineering works also were free from that degree of incompleteness which is inseparable from the state of transition in which their architecture was during the whole period of the Empire. It is owing to these causes that the substructions of the Appian Way strike every beholder with admiration and astonishment; and nothing impresses the traveller more, on visiting the once imperial city, than the long lines of aqueducts that are seen everywhere stretching across the now arid plain of the Campagna. It is true they are mere lines of brick arches, devoid of ornament and of every attempt at architecture properly so called; but they are so well adapted to the purpose for which they were designed, so grand in conception, and so perfect in execution, that in spite of their want of architectural character they are among the most beautiful of the remains of Roman buildings.

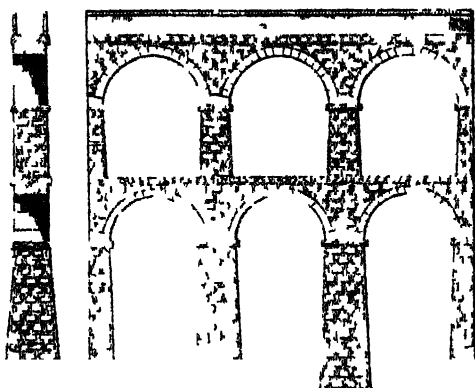
The aqueducts were not however all so devoid of architectural design as those of the Campagna. That, for instance, known as the Pont du Gard, built to convey water to the town of Nîmes in France, is one of the most striking works of antiquity. Its height above the stream is about 180 ft., divided into two tiers of larger arches surmounted by a range of smaller ones, giving the structure the same finish and effect that an entablature and cornice gives to a long range of columns. Without the introduction of one single ornament, or of any member that was not absolutely wanted, this arrangement converts what is a mere utilitarian work into an architectural screen of a beauty hitherto unrivalled in its class.

The aqueducts of Segovia and Tarragona in Spain, though not perhaps so grand, are quite as elegant and appropriate as this; and if they stood across a line of well wooded and watered valleys, might form as beautiful objects. Unfortunately the effect is much marred by the houses and other objects that crowd their bases. Both these rise to about 100 ft. above the level of their foundation in the centre. That of Segovia is raised on light piers, the effect of which is perhaps somewhat spoiled by numerous offsets, and the upper tier is if anything too light for the lower. These defects are avoided at Tarragona, the central arches of which are shown in woodcut No. 240. In this example the proportion of the upper to the lower arcade is more perfect, and the whole

bears a character of lightness combined with constructive solidity and elegance unrivalled, so far as I know, in any other work of its class. It wants, however, the grandeur of the Pont du Gard; for though its length is about the same, exceeding 800 ft., it has neither its height nor the impression of power given by the great arches of that building, especially when contrasted with the small ones.



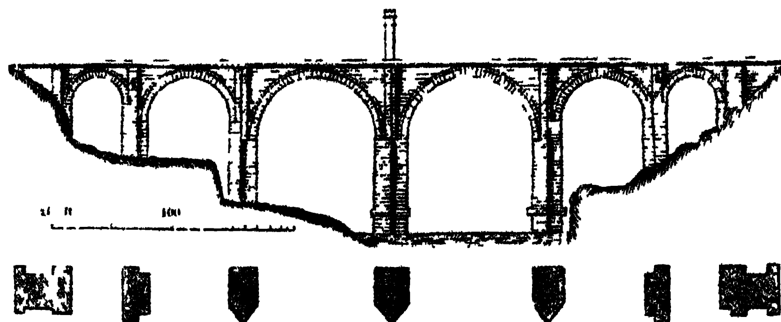
239. Aqueduct of Segovia. Scale 50 ft. to 1 in.



Aqueduct of Tarragona. Scale 50 ft. to 1 in.

The Roman bridges were designed on the same grand scale as their aqueducts, though from their nature they of course could not possess the same grace and lightness. This was, however, more than compensated by their inherent solidity and by the manifestation of strength imparted by the Romans to all these structures. They seem to have been designed to last for ever, and but for the violence of man, it would be hardly possible to set limits to their durability. Many still remain in almost every corner of the Roman Empire, and wherever found are easily recognised by the unmistakeable impress of Roman grandeur which is stamped upon them.

One of the most remarkable of these is that which Trajan erected at Alcantara, in Spain, represented in the annexed woodcut. The road-

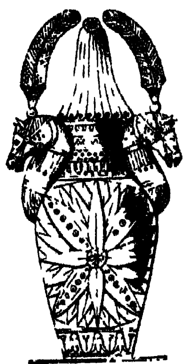


Bridge of Trajan at Alcantara, in Spain.

way is perfectly level, as is generally the case in Roman bridges, though the mode by which this is obtained, of springing the arches from different levels, is perhaps not the most pleasing. To us at least it is unfamiliar, and has never, I think, been adopted in modern times. In such a case we should either have made the arches all equal—a mistake, considering their different heights—or have built solidly over the smaller arches to bring up the level, which would have been a far greater error in construction than the other is in taste. The bridge consists of six arches, the whole length of the roadway being 650 ft.; the two central arches are about 100 ft. span; the roadway is 140 ft. above the level of the stream which it crosses. The piers are well proportioned and graceful, and altogether the work is as fine and as tasteful an example of bridge-building as can be found anywhere, even in these days of engineering activity.

The bridge which the same Emperor erected over the Danube was a far more difficult work in an engineering point of view; but the superstructure being of wood, resting only on stone piers, it would necessarily have possessed much less architectural beauty than this, or indeed than many others.

These examples of this class of Roman works must suffice; they are so typical of the style that it was impossible to omit them altogether, though the subject scarcely belongs in strictness to the objects of this work. The bridges and aqueducts of the Romans richly deserve the attention of the architect not only because they are in fact the only works which the Romans, either from taste or from social position, were enabled to carry out without affectation and with all their originality and power, but also because it was in building these works that the Romans acquired that constructive skill and largeness of proportion which enabled them to design and carry out works of such vast dimensions, to vault such spaces, and to give to their buildings generally that size and impress of power which form their chief if not their only merit. It was this too that enabled them to originate that new style of vaulted buildings which at one period of the middle ages promised to reach a degree of perfection which no architecture of the world had ever attained. The Gothic style, it is true, perished at a time when it was very far from completed, but it is a point of no small interest to know where and under what circumstances it was invented. We shall subsequently have to trace how far it advanced towards that perfection at which it aimed, but to which it never reached. Strangely enough it failed solely because of the revival and the pernicious influence of that very parent style to which it owed its birth, and the growth and maturity of which we have described in the grandeur of the edifices reared at Rome in the first centuries of the Empire.



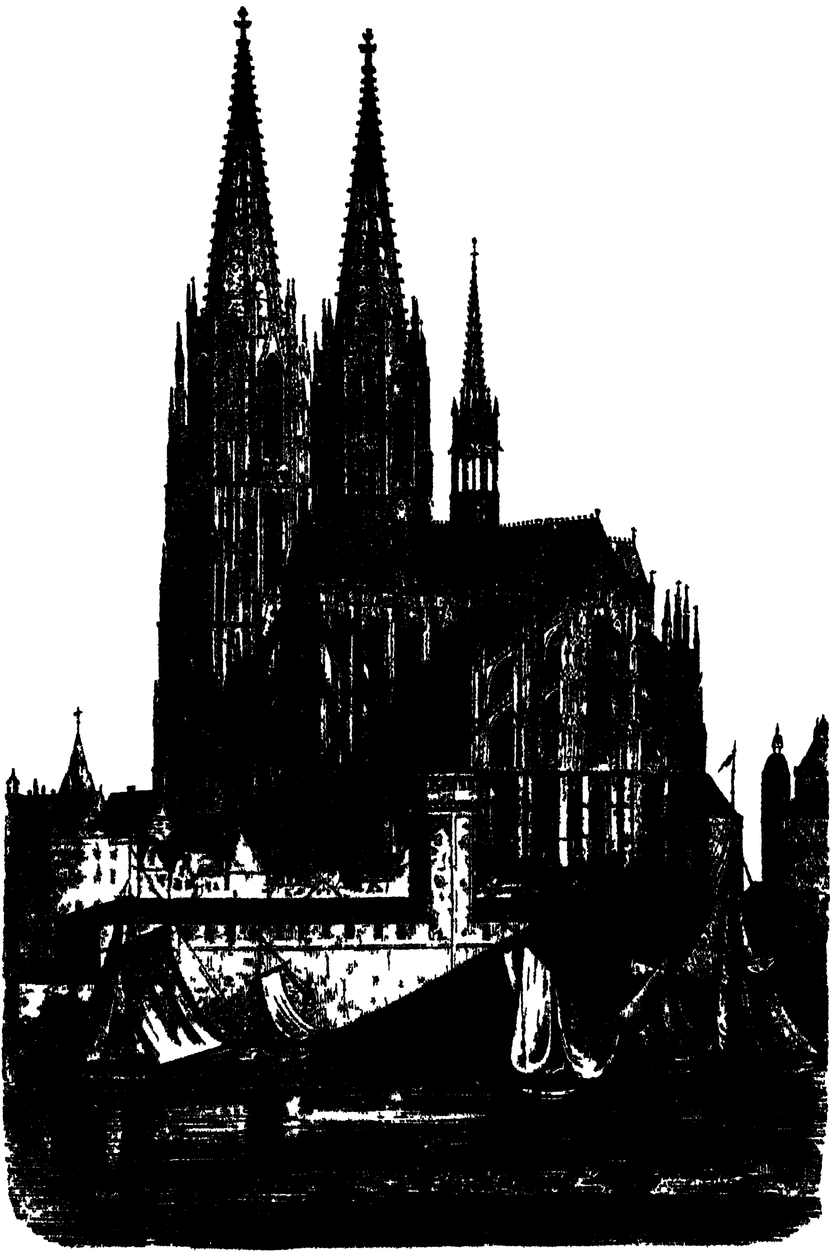
Egyptian Vase From a painting

HISTORY OF ARCHITECTURE.

PART II.

CHRISTIAN ARCHITECTURE.

FRONTISPIECE TO PART II



VIEW OF COLOGNE CATHEDRAL

As it will appear when completed

From [illegible].

HISTORY OF ARCHITECTURE.

PART II. CHRISTIAN ARCHITECTURE.

BOOK I.

CHAPTER I.

INTRODUCTORY.

If a line were drawn north and south from Memel on the shores of the Baltic to Spalatro on the Adriatic, it would divide Europe into nearly equal halves. All that part lying to the west of the line would be found to be inhabited by nations of Celtic or Indo-Germanic race, and all those to the eastward of it by nations of Sclavonic origin, if—as we must do—we exclude from present consideration those fragments of the elder Turanian races which still linger to the westward, as well as the intrusive hordes of the same family which temporarily occupy some fair portions to the eastward of the line so drawn.

This line is not of course quite straight, for it follows the boundary between Germany on the one hand, and Russia and Poland on the other as far as Cracow, while it crosses Hungary by the line of the Raab and separates Dalmatia from Turkey. Though Sclavonic influences may be detected to the westward of the boundary, they are faint and underlie the Teutonic element; but to the eastward, the little province of Siebenburgen in the north-east corner of Hungary, forms the only little oasis of Gothic art in the desert of Panslavic indifference to architectural expression. Originally it was a Roman, afterwards a German colony, and maintained its Gothic style throughout the middle ages.[1]

From Spalatro the line crosses the Adriatic to Fermo, and then

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[1] In the Museum at Pesth are a number of objects of Egyptian art, said to have been found in this quarter. Is it too much to assume the pre-existence of a Phœnician or Egyptian colony here before the Roman times?

following very closely the 43rd parallel of latitude, divides Italy into two nearly equal halves. The Gothic tribes settled to such an extent to the northward of this boundary as to influence the style of architecture in a very marked degree; while to the southward of it their presence can with difficulty be detected, except in a few exceptional cases, and for a very limited time.

Architecturally all the styles of art practised during the middle ages to the westward and northward of this boundary, may be correctly and graphicly described as the Gothic style. All those to the eastward may with equal propriety be designated as the Byzantine style of art.

Anterior however to these, there existed a transitional style, properly called the Romanesque, which may be described as that modification of the classical Roman form, which was introduced between the reigns of Constantine and Justinian, and was avowedly an attempt to adapt classical forms to Christian purposes. To the eastward of the line of demarcation the transition was perfected under the reign of Justinian (A.D. 527 to 564), when it became properly entitled to the name of Byzantine. To the westward, in Italy and the south of France, the Romanesque continued to be practised till the 6th or 7th centuries; but about that time occurs an hiatus in the architectural history of Western Europe, owing to the troubles which arose on the dissolution of the Roman empire and the irruption of the Barbarian hordes. When the art again re-appeared, it was strongly tinctured by Barbarian influences, and may with propriety be designated the Gothic style, the essential characteristic being that it is the architecture of a people differing from the Romans or Italians in blood, and, it need hardly be added, differing from them in a like ratio in their architectural conceptions.

This nomenclature differs slightly from that usually employed in modern architectural works. This arises from the fact that the present names were introduced by persons writing monographs of the styles of their native countries, and not by any one who, taking a larger view of the subject, was attempting to classify all styles. It is of little consequence, for instance, that the Germans should call the architecture of such cathedrals as those of Spires, Worms, &c., by the absurd name of Byzantine, or to ask them what feature had been borrowed from the Eastern capital, or in what one particular they resembled the buildings of that division of Europe. They adopted a name, and so long as they did not extend their purview beyond the Rheinland, no harm was done. But with a general historian it is different, he has a definite use for the term, and he cannot admit within its limits any style or details which cannot establish their affinity to it.

The same is equally true of the Romanesque. There is in Italy and in the south of France a style which is only modified Roman, without any extraneous influence—and to which the term more properly applies, and to use it to designate the early attempts of the ante-

genistic nations is to mistake, not only the meaning of the term, but the whole meaning of the ethnography of art. There is, for instance, less classical feeling in the naves of Peterborough or Ely Cathedrals, than in those of Canterbury or York; and our Norman buildings, in all essential respects, are far less like those of Rome than the Decorated Pointed buildings which superseded them. If the change of a simple detail or the substitution of a pointed for a round arch is sufficient to necessitate a change of name, the new style should have been called Saracenesque,[1] or have had some such name conferred upon it.

The term Gothic, as applied to all the styles invented and used by the Western Barbarians who overthrew the Roman empire and settled within its limits, is a true and expressive term both ethnographically and architecturally, and, unless the several styles be grasped as a whole, and comprehended under one denomination whatever that may be – they can never be classified or be properly understood.

The first great subdivision of this that occurs, is between the early and later Gothic styles – which may generally be characterised as the Round and Pointed Arched Gothic styles. In France, however, a pointed style preceded the round-arched, so that this characteristic must not be too rigidly insisted upon. Beyond this general classification, the use of local names when available, will always be found most convenient. First the country, or architectural province, in which an example is found should be ascertained, so that its locality may be marked, and if possible with the addition of a dynastic or regal name to point out its epoch. When the outline is sufficiently marked, it may be convenient, as the French do, to speak of the style of the 13th century as applied to their own country. The terms they use always seem to be better than 1st, or 2nd, middle, pointed, or even "Geometric," "Decorated" or "Perpendicular," or such general names as neither tell the country nor the age, nor even accurately describe the style, though when they have become general it may seem pedantic to refuse to use them. The system of using local, combined, and dynastic names, has been followed in describing all the styles hitherto enumerated in this volume, and will be followed in speaking of those which remain to be described, and as it is generally found to be so convenient, whenever it is possible it will be adhered to.

In order to carry out these principles, the division proposed for this part of the subject is—

1st. To treat of the Western Romanesque as it prevailed in Italy between the ages of Constantine and Justinian down to the age of Gregory the Great, say about the year 600. So long in fact as it remained an original independent style, unmixed with foreign or extraneous influences.

[1] If Romanesque is to be applied to our Norman architecture, the Parthenon ought to be called Egyptianesque, and the Temple at Ephesus Assyrianesque.

2nd. To take up the Gothic style in France, and follow it from the time it emancipated itself from the Romanesque till it perished under Francis I. If this arrangement is not quite logical, it is certainly convenient, as it enables us to grasp the complete history of the style in the country where most of the more important features were invented and perfected. Having once mastered this, the history of Gothic art in the country of its birth, the sequence in which the other branches of the style are followed becomes comparatively unimportant. The difficulty of arranging them does not lie so much in the sequence as in the determination of what divisions shall be considered as separate architectural provinces. In a Handbook subdivision could hardly be carried too far, in a history a wider view ought to be taken. On the whole, perhaps, the following will best meet the true exigencies of the case.

3rd. Belgium and Holland should be taken up after France as a separate province during the middle ages, while at the same time forming an intermediate link between that country and Germany.

4th. Though not without important ethnographical distinctions, it will be convenient to treat all the German-speaking countries from the Alps to the Baltic as one province. If they were taken up before France, such a mode of treatment would be inadmissible; but following the history of the art in that country, it may be done without either confusion or needless repetition.

5th. Scandinavia follows naturally as a subordinate and unfortunately not very important architectural subdivision.

6th. From this we pass by an easy gradation to the British Islands, which in themselves contain three tolerably well-defined varieties of style.

7th. Spain might have been made to follow France, as most of its architectural peculiarities were borrowed from that country; but some too own a German origin, while on the whole the new lessons to be learned from a study of her art are so few, that it is comparatively unimportant in what sequence the country is taken.

8th. There then only remains Italy, from which our history sprang, and to which it returns. After treating of the imperfect Gothic of the north, we pass easily to the imperfect Byzantine of the southern division of the peninsula. Thence by an easy gradation we cross the Adriatic, and begin again the history of Christian art by tracing up the successive developments of the Byzantine style of architecture in the countries lying to the eastward of the boundary line, with the description of which this chapter commenced. Owing to the greater uniformity of race, the thread of the narrative is far more easily followed to the eastward than to the westward of the line. The Byzantine empire remained one and undivided during the middle ages; and from that we pass by an easy gradation to Russia, where the style continued to be practised till Peter the Great superseded it by introducing those of Western Europe.

CHAPTER II.

WESTERN ROMANESQUE STYLE.

CONTENTS.

Basilicas at Rome—Basilica of St. Peter—St. Paul's—Basilicas at Ravenna—Torcello.

CHRONOLOGY.

	DATES.		DATES.
Honorius	A.D. 395	Alboin Longimanus, King of Lombardy	A.D. 568
Valentinian	425–43[illegible]	Gregory I.	590
Theodoric, King of the Ostrogoths	49[illegible]–52[illegible]	Charlemagne	768
Justinian	527		

BASILICAS.

Like the study of all modern history, that of Christian architecture commences with Rome, and not, as is sometimes supposed, where the history of Rome leaves off, but far back in the Empire, if not, indeed, almost in the Republic.

As has already been pointed out, the whole history of the art in Imperial Rome is that of a style in course of transition, beginning with a purely Pagan or Grecian style in the age of Augustus, and passing into one almost wholly Christian in the age of Constantine.

At the first epoch of the Empire the temple architecture of Rome consisted in an external arrangement of columns, without arches or vaults, and wholly unsuited to the purposes of Christian worship. Towards the end of the period it had become an internal architecture, making use of arches and vaults almost entirely to the exclusion of the columnar orders, except as ornaments, and was so perfectly adapted to Christian requirements, that little or no essential change has taken place from that time to the present day. A basilica of the form adopted in the first century after Constantine is as suited now as it was then to the forms and ceremonies of the Christian ritual.

The fact seems to be, that during the first three centuries after the Christian era an immense change was silently but certainly working its way in men's minds. The old religion was effete: the best men, the most intellectual spirits of the age had no faith in it; and the new religion with all its important consequences was gradually supplying its place in the minds of men long before it was generally accepted.

There is thus no real distinction between the Emilian or Ulpian

basilicas and those which Constantine erected for the use of the early Christian republic. Nor is it possible, in such a series as the Pantheon, the Temple of Minerva Medica, and the Church of San Vitale at Ravenna, to point out what part really belongs to Pagan, and what to Christian art.

It is true that Constantine fixed the epoch of completed transition, and gave it form and substance; but long before his time Paganism was impossible, and a reform inevitable. The feeling of the world had changed—its form of utterance followed as a matter of course.

Viewed in this light, it is impossible to separate the early history of Christian art from that of Imperial Rome. The sequence is so immediate, and the change so gradual, that a knowledge of the first is absolutely indispensable to a right understanding of the second.

One of the most remarkable facts connected with the early history of the Christian religion is, that neither its founder nor any of his more immediate successors left any specific directions either as to the liturgical forms of worship to be observed by his followers, nor laid down any rules to be observed in the government of the newly established church. Under these circumstances it was left almost wholly to those to whose care the infant congregation was entrusted, to frame such regulations for its guidance as the exigencies of the occasion might dictate, and gradually to appoint such forms of worship as might seem most suitable to express the purity of the new faith, but at the same time with a dignity befitting its high mission.

In Judea these ceremonies, as might naturally be expected, were strongly tinctured with the forms of the Mosaic dispensation, but it appears to have been in Africa, and more especially in the pomp-loving and ceremonious Egypt, that fixed liturgies and rites first became an integral part of the Christian religion. In those countries far from the central seat of government, more liberty of conscience seems to have been attained at an early period than would have been tolerated in the capital. Before the time of Constantine they possessed not only churches, but a regularly established hierarchy, and a form of worship similar to what afterwards obtained throughout the whole Christian world. The form of the government of the church, however, was long unsettled. At first it seems merely to have been, that the most respected individuals of each isolated congregation were selected to form a council to advise and direct their fellow-Christians, to receive and dispense their alms, and under the simple but revered title of Presbyters, to act as fathers rather than as governors to the scattered communities by which they were elected. The idea, however, of such a council naturally includes that of a president to guide their deliberations, and give unity and force to their decisions; and such we soon find springing up under the title of Bishops, or Presbyter Bishops, as they were first called. During the course of the second century the

latter institution seems gradually to have gained strength at the expense of the power of the presbyters, whose delegate the bishop was assumed to be. In that capacity the Bishops not only took upon themselves the general direction of the affairs of the church, but formed themselves into separate councils and synods, meeting in the provincial capitals of the provinces where they were located. These meetings took place under the presidency of the bishop of the city in which they met, who thus assumed to be the chief or metropolitan. These formed a new presbytery above the older institution, which was thus gradually superseded — to be again surpassed by the great Councils, which after the age of Constantine formed the supreme governing body of the church; performing the functions of the earlier provincial synods with more extended authority, though with less unanimity and regularity, than had characterised the earlier institution.

It was thus that during the first three centuries of its existence the Christian community was formed into a vast Federal republic, governed by its own laws, administered by its own officers, acknowledging no community with the heathen, and no authority in the constituted secular powers of the state. But at the same time the hierarchy admitted a participation of rights to the general body of the faithful, from whom they were chosen, and whose delegation was still admitted to be their title to office

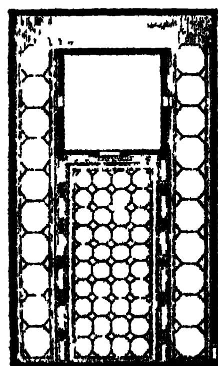
When in the time of Constantine this persecuted and scattered church emerged from the catacombs to bask in the sunshine of imperial favour, there were no buildings in Rome which could be found more suited for their purposes than the basilicas of the ancient city. They were designed and erected for the transaction of the affairs of the heathen Empire, and were in consequence eminently suited for the convenience of the Christian republic, which then aspired to supersede its fallen rival and replace it by a younger and better institution.

In the basilicas the whole congregation of the faithful could meet and take part in the transaction of the business going on. The bishop naturally took the place previously occupied by the prætor or quæstor, the presbyters those of the assessors The altar in front of the apse, where the pious heathen poured out libations at the commencement and conclusion of all important business, served equally for the celebration of Christian rites, and with the fewest possible changes either in the form of the ceremonies, or in the nature of the business transacted therein. the basilica of the heathen became the ecclesia or place of assembly of the early Christian community.

Though this was the case in the capital, it was otherwise in the provinces. There the Christian communities existed as members of a religious sect long before they aspired to political power or dreamt of superseding the secular form of government by combination among

themselves. In the remote parts of the Empire they consequently built for themselves churches which were temples, or in other words houses of prayer, designed for and devoted wholly to the celebration of religious rites, as in the Pagan temples, and without any reference to the government of the community or the transaction of the business of the assembly. If any such existed in Italy or any other part of Europe, they either perished in the various persecutions to which the Christians were exposed when located near the seat of government, or they became hallowed by the memories of the times of martyrdom, and were rebuilt in happier days with greater magnificence, so that little or no trace of the original buildings now remains. So long, therefore, as our researches were confined to European examples, the history of Christian architecture began with Constantine; but recent researches in Africa have shown that, when properly explored, we shall certainly be able to carry the history of the Romanesque style in that country back to a date at least a century before his time. In Syria and Asia Minor so many early examples have come to light that it seems probable that we may, before long, carry the history of Byzantine art back to a date nearly approaching that of the destruction of Jerusalem by Titus. It is, however, only so recently that the attention of ecclesiologists has been directed to the early examples of Christian architecture, that it is not yet possible to grasp completely the whole bearing of the subject, but enough is known to show how much the progress of research may modify the views hitherto entertained on the subject. Meanwhile too much attention can hardly be bestowed upon it, as it is by means of these early specimens of architectural art that we shall probably be best able to recover the primitive forms of the Christian liturgical observance.

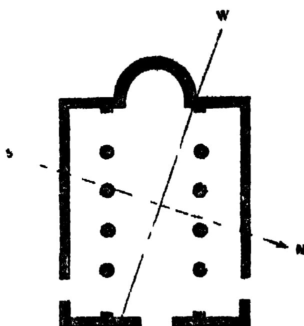
One of the most ancient as well as interesting of the African churches which has yet been brought to light is that at Djemila. It is a simple rectangle, internally 92 ft. by 52, divided longitudinally with three aisles, the centre one of which terminates in a square cella or choir, which seems to have been enclosed up to the roof; but the building is so ruined that this cannot be known for a certainty. Though so exceptional, it is not difficult to see whence the form was derived. If we take such a plan, for instance, as that of the Maison Carrée at Nîmes (woodcut No. 179), and build a wall round and put a roof over it, so as to make a building which was originally appropriated to external worship suitable for internal religious purposes, we should have exactly such a result as this. The cella must be



212 Plan of Church at Djemila. Scale 50 ft. to 1 in.

diminished in extent, the pillars more widely spaced, and the front row converted into a wall in which the entrances would be usually placed. In this instance the one entrance, for some local reason, is lateral. The whole floor of the church is covered with a mosaic so purely classical in style of execution as to leave no doubt as to its early date.

A more common form is shown in the annexed woodcut, representing a small church at Announa, likewise in Algeria, about 45 ft. square, divided into three aisles and with a projecting apse. If we turn to the plan of the Temple of Mars Ultor (woodcut No. 178), we see at once whence this form was derived. It only requires the lateral columns to be brought slightly forward to effect the requisite change. When the building was to be used by a congregation, and not merely for display, the pillars would require to be more widely spaced.



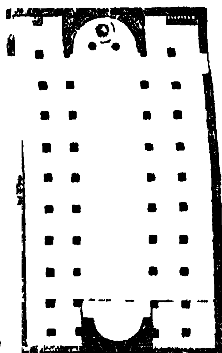
213 Plan of Church at Announa. Scale 50 ft. to 1 in.

A third form, from Ibrim in Nubia, shows the peculiarity of the apse being internal, which became very fashionable in the Eastern, though not so much so in the Western churches, but still sufficiently so to make its introduction at this early age worthy of notice. The building is small, being only 57 ft. in length externally, but is remarkable for being built with something of the solidity of the Egyptian edifices among which it stands.



Plan of Church at Ibrim in Nubia. No scale.

The last example which it will be necessary to quote to make this early form intelligible, is that of the church of St. Reparatus, near Orleansville — the ancient Castellum Tingitanum. According to an inscription still existing, it was erected A.D. 252, but the second apse seems to have been added afterwards, about the year 403, to contain the grave of the saint. As it now stands, it is a double-apsed basilica 80 ft. long by 52 broad, divided into five aisles, and exhibiting on a miniature scale all the peculiarities of plan which we have hitherto fancied were not adopted until some centuries later. In this instance both the apses are internal,



Plan of Basilica at Orleansville. Scale 50 ft. to 1 in.

so that the side-aisles are longer than the centre one, no portion of them appearing to have been cut off for calcidica or vestries, as was very generally the case at this age.

It was probably in a great measure owing to the influence of these provincial examples that the arrangements of the metropolitan basilicas were not long allowed to retain the form above described, though more was probably due to the change which was gradually taking place in the constitution of the governing body of the church. The early arrangements of the Christian basilica, as copied from the secular forms of the pagan places of assembly, soon became unsuited to the more exclusively religious purposes to which they were to be appropriated. The now dominant hierarchy of Rome soon began to repudiate the republicanism of the early days of the church, and to adopt from the East the convenient doctrine of the absolute separation of the congregation into clergy and laity. To accommodate the basilica to this new state of things, first the apse was railed off and appropriated wholly to the use of the clergy, then the whole of the dais, or raised part in front of the apse on which the altar stood, was separated by pillars, called cancelli, and in like manner given up wholly to the clergy, and was not allowed to be profaned by the presence of the unordained multitude.

The last great change was the introduction of a choir, or enclosed space in the centre of the nave, attached to the bema or *presbytery*, as the raised space came to be called. Round three sides of this choir the faithful were allowed to congregate to hear the Gospels or Epistles read from the two pulpits or *ambones*, which were built into its enclosure one on either side; or to hear the services which were read or sung by the inferior order of clergy who occupied its precincts.

The enclosure of the choir was kept low, so as not to hide the view of the raised presbytery, or to prevent the congregation from witnessing the more sacred mysteries of the faith which were there performed by the higher order of clergy.

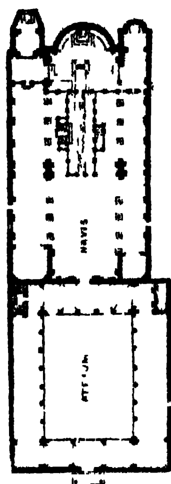
Another important modification, though it entailed no architectural change, was the introduction of the bodies of the saints in whose honour the building was erected, into the basilica itself, and depositing them in a confessional or crypt below the high altar.

There is every reason to believe that a separate circular building, or proper tomb, was originally erected over the grave or place of martyrdom, and the basilica was sanctified merely by its propinquity to the sacred spot. Afterwards the practice of depositing the relics of the saint beneath the floor became universally the rule. At about the same time the baptistery was also absorbed into the basilica; and instead of standing opposite the western entrance, a font placed within the western doors supplied its place. This last change was made earlier at Rome than elsewhere. It is not known at what exact period the

alteration was introduced, but it is probable that the whole was completed before the age of Gregory the Great.

It was thus that in the course of a few centuries the basilicas aggregated within themselves all the offices of the Roman church, and became the only acknowledged ecclesiastical buildings—either as places for the assembly of the clergy for the administration of the Sacraments and the performance of divine worship, or for the congregation of the faithful.

None of the Basilican churches either of Rome or the provinces possess these arrangements exactly as they were originally established in the fourth or fifth century. The church of San Clemente, however, retains them so nearly in their primitive form that a short description of it may tend to make what follows more easily intelligible. This basilica seems to have been erected in the fourth or fifth century over what was supposed to be the house in which the saint of that name resided. Recently a subterranean church or crypt has been discovered which must of course be more ancient than the present remains, but nothing has yet been made public to enable us to fix its date with any certainty, or even to ascertain its precise plan. Above this crypt stands the edifice shown in the accompanying plan (woodcut No. 246).



246. Plan of the Church of San Clemente at Rome. From Gutensohn and Knapp.[1] Scale 100 ft. to 1 in.

It is one of the few that still possesses an *Atrium* or court-yard in front of the principal entrance, though there can be but little doubt but this was considered at that early age a most important, if not indeed an indispensable, attribute to the church itself. As a feature it may have been derived from the East, where we know it was most common, and where it afterwards became, with only the slightest possible modifications, the mosque of the Moslems. It would seem even more probable, however, that it is only a repetition of the *forum*, which was always attached to the Pagan basilica, and through which it was always entered; and for a sepulchral church at least nothing could be more appropriate, as the original application of the word forum seems to have been to the open area that existed in front of tombs as well as of other important buildings.[2]

In the centre of this atrium there generally stood a fountain or tank of water, not only as an emblem of purity, but that those who came to the church might wash their hands before entering the holy place—a custom which seems to have given rise to the practice of

1 Gutensohn and Knapp, 'Die Basiliken des Christlichen Roms.'

2 Cicero de Legg., ii. 24; Festus, s. v.; Smith's 'Dictionary of Classical Antiquities.'

dipping the fingers in the holy water of the piscina, now universal in all Catholic countries.

The colonnade next the church was frequently the only representative of the atrium, and then— perhaps indeed always—was called the *narthex*, or place for penitents or persons who had not yet acquired the right of entering the church itself.

From this narthex three doorways generally opened into the church, corresponding with the three aisles, and if the building possessed a font, it ought to have been placed in one of the chapels on either the right or left hand of the principal entrance.

The choir with its two pulpits is shown in the plan—that on the left-hand side being the pulpit of the epistle, that on the right of the gospel. The railing of the *bema* or presbytery is also marked, so is the position of the altar with its canopy supported on four pillars, and behind that the throne of the bishop, with the seats of the inferior clergy surrounding the apse on either side.

Besides the church of San Clemente there are at least thirty other basilican churches in Rome, extending in date from the 4th to the 14th century. Their names and dates, as far as they have been ascertained, are set forth in the accompanying list, which, though not altogether complete, is still the best we possess, and is sufficient for our present purposes.[1]

BASILICAS OF ROME.

FOURTH CENTURY.

St. Peter's	Constantine (5 aisled) ...... about	330
San Giovanni Laterano	Ditto ...... founded	333 ?
St. Paul's	Theodosius and Honorius (5 aisled)	386
Sta. Pudenziana		335 ?

FIFTH CENTURY.

Sta. Sabina	Pope Celestine ...... about	425
Sta. Maria Maggiore	Pope Sixtus III.	432
St. Pietro ad Vincula	Eudoxia (Greek Doric pillars) ...	442

SIXTH CENTURY.

San Lorenzo (old part)	Pope Pelagius (galleries)	580
Sta. Balbina	Gregory the Great (no side-aisles)	600

SEVENTH CENTURY.

Sta. Agnese	Honorius I. (galleries)	625
Quattro Coronati	Honorius I.	625
St. Giorgio in Velabro	Leo II.	682
San Chrisogono	Gregory III.	730

[1] It is copied, with slight alterations, from the work of the Chevalier Bunsen on the Roman Basilicas, which, with the illustrations of Gutensohn and Knapp, forms by far the best work on the subject that has yet been given to the world; though some of the dates assigned to the buildings are still matters of dispute, but not to any material extent. Those here given generally refer to the building now existing or known, and not always to the original foundation.

EIGHTH CENTURY.

S. Giovanna a porta Latina	Hadrian I.	790?
S. Maria in Cosmedin	..	790
S. Vincenzo alle Tre Fontane		790
S. Lorenzo (nave)		about 790?

NINTH CENTURY.

SS. Nereo ed Achilleo	Leo III.	about 800
S. Praxede	Paschal I.	820
S. Maria in Dominica		820
S. Martino ai Monti	Sergius and Leo	844, 855
S. Clemente	John VIII.	872
S. Nicolo in Carcere		about 900
S. Bartolomeo in Isola		900

TENTH CENTURY.

S. Giovanni in Laterano	Rebuilt by Sergius III.	910

ELEVENTH CENTURY.

Nothing.

TWELFTH CENTURY.

S. Maria in Trastevere	Innocent II.	1135
S. Croce	Lucius	1144
S. Maria in Ara Celi		uncertain

THIRTEENTH CENTURY.

Nothing.

FOURTEENTH CENTURY.

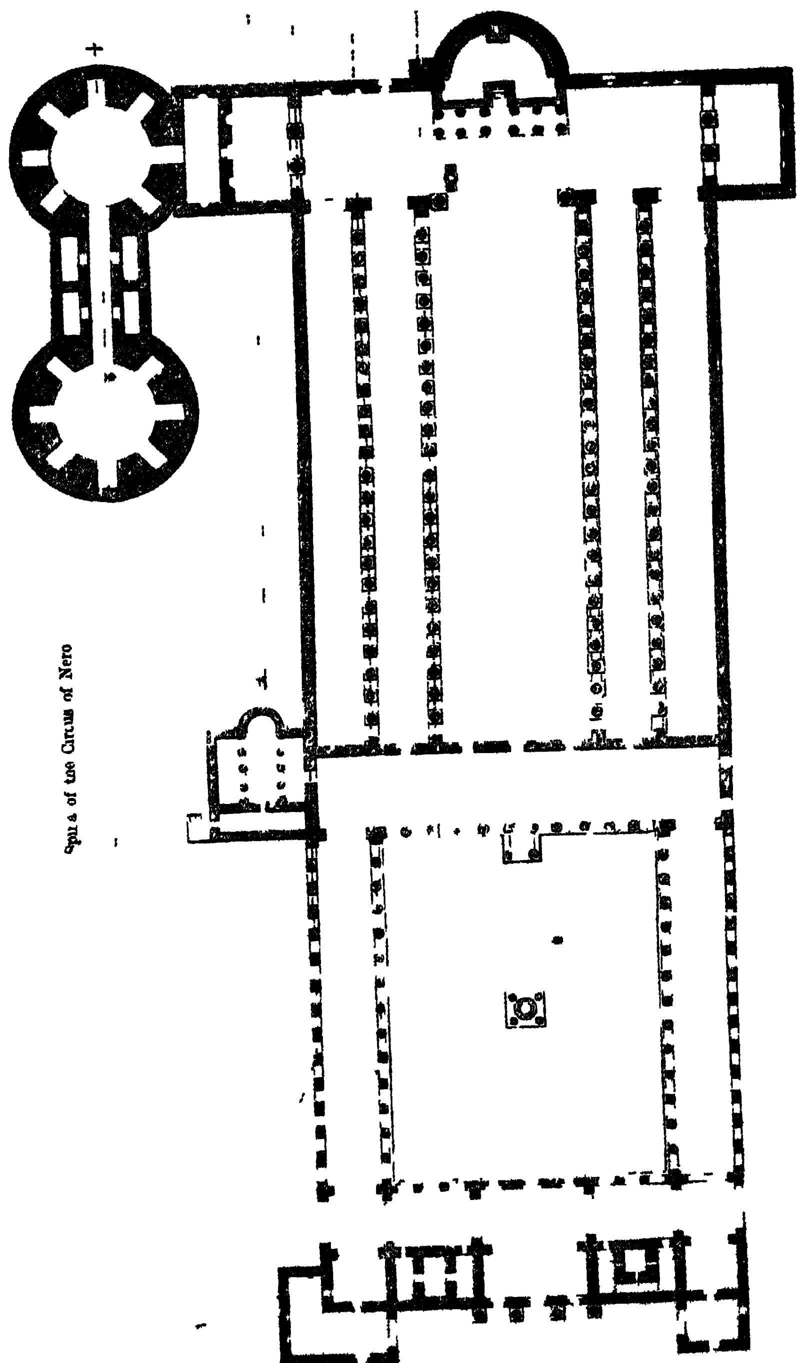
S. Maria sopra Minerva	Gothic	about 1370

FIFTEENTH CENTURY

S. Agostino	Renaissance?	about 1480

Three of these, St. Peter's, St. Paul's, and the Lateran church, have five aisles, all the rest three, with only one insignificant exception, Sta. Balbina, which has no side aisles. Two, Sta. Agnese and the old part of St. Lorenzo, have their side-aisles in two storeys, all the rest are only one storey in height, and the side-aisles generally are half the width of the central aisle or nave. Some of the more modern churches have the side aisles vaulted, but of those in the list all except the two last have flat wooden ceilings over the central compartment, and generally speaking the plain unornamental construction of the roof is exposed. It can scarcely be doubted that originally they were ceiled in some more ornamental manner, as the art of ornamenting this new style of open construction seems to have been introduced at a later date.

Of the two last-named, the Sta. Maria sopra Minerva might perhaps be more properly classed among the buildings belonging to the Italian Gothic style; but as it is the only one in Rome that has any claim to such a distinction, it is hardly worth while making it an exception



247 Plan of the original Basilica of St. Peter at Rome. From Gutensohn and Knapp. Scale 100 ft. to 1 in.

to the rest. The San Agostino might also be called a Renaissance specimen. It certainly is a transitional specimen between the pillared and pilastered styles, which were then struggling for mastery. It may either be regarded as the last of the old race or the first of the new style, which was so soon destined to revolutionise the architectural world.

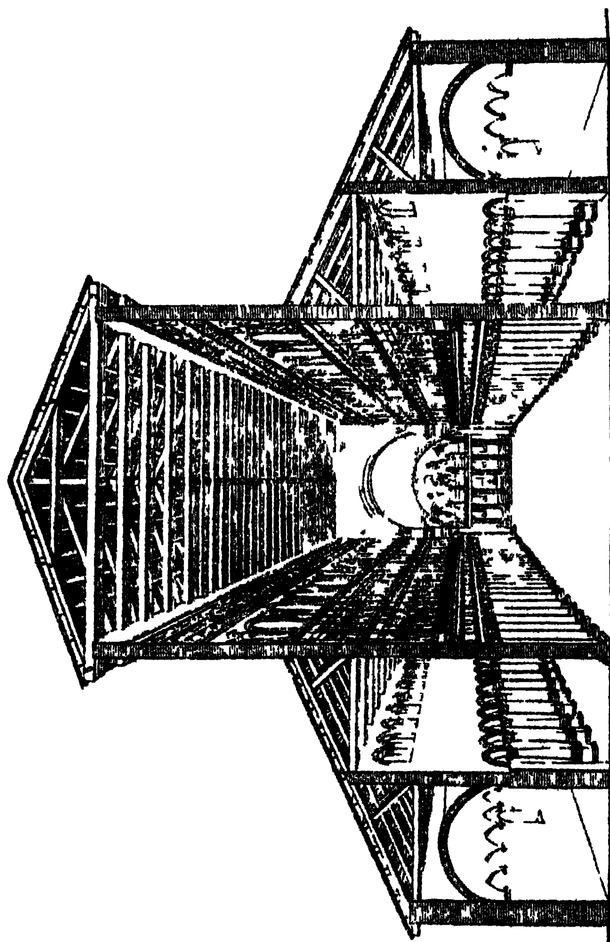
St. Peter's.

Of the remaining examples the oldest was the finest. This great basilica was erected in the reign of Constantine, close to the circus of Nero, where tradition affirmed that St. Peter had suffered martyrdom. It unfortunately was entirely swept away to make room for the greatest of Christian temples, which now occupies its site; but previous to its destruction careful measurements and drawings were made of every part, from which it is easy to understand all its arrangements—easier perhaps than if it had remained to the present day, and four centuries more of reform and improvements had assisted in altering and disfiguring its venerable frame.

As will be seen from the plan (woodcut No. 247), drawn to the usual scale, it possessed a noble atrium or forecourt, 212 ft. by 235, in front of which were some bold masses of building, which during the middle ages were surmounted by two belfry-towers. The church itself was 212 ft. in width by 380 in length, covering, without its adjuncts, an area of above 80,000 English feet, which, though less than half the size of the present cathedral, is as large as that covered by any mediæval cathedral except those of Milan and Seville. The central aisle was about 80 ft. across (about twice the average width of a Gothic nave), and nearly the same as that of the basilica of Maxentius and the principal halls of the greater Thermæ. For some reason or other this dimension seems to have been a modulus very generally adopted. The bema or sanctuary, answering to the Gothic transept, extended beyond the walls of the church either way, which was unusual in Romanesque buildings. The object here seems to have been to connect it with the tombs on its north side. The arrangement of the sanctuary was also peculiar, having been adorned with twelve pillars supporting a gallery. These, when symbolism became the fashion, were said to represent the twelve apostles. This certainly was not their original intent, as at first only six were put up—the others added afterwards. The sanctuary and choir were here singularly small and contracted, as if arranged before the clergy became so numerous as they afterwards were, and before the laity were excluded from this part of the church.

The general internal appearance of the building will be understood from the following woodcut (No. 248), which presents at one view all the peculiarities of the basilican buildings. The pillars separating the

central from the side aisles appear to have been of uniform dimensions, and to have supported a horizontal entablature, above which rose a double range of panels, each containing a picture—these panels thus taking the place of what was the triforium in Gothic churches. Over these was the clerestory, and again an ornamental belt gave sufficient elevation for the roof, which in this instance showed the naked



249 View of the old Basilica of S. Peter before its destruction in the 16th century. From Fontana.

construction. On the whole perhaps the ratio of height to width is unexceptionable, but the height over the pillars is so great that they are made to look utterly insignificant, which indeed is the great defect in the architectural design of these buildings, and, though seldom so offensive as here, is apparent in all. The ranges of columns dividing the side aisles were joined by arches, which is a more common as well

as a better arrangement, as it not only adds to the height of the pillars, but gives them an apparent power of bearing the superstructure. At some period during the middle ages the outer aisles were vaulted, and Gothic windows introduced into them. This change seems to have necessitated the closing of the intermediate range of clerestory windows, which probably was by no means conducive to the general architectural effect of the building.

Externally this basilica, like all those of its age, must have been singularly deficient in beauty or in architectural design. The sides were of plain unplastered brick, the windows were plain arch-headed openings. The front alone was ornamented, and this only with two ranges of windows somewhat larger than those at the sides, three in each tier, into which tracery was inserted at some later period, and between and above these, various figures and emblems were painted in fresco on stucco laid on the brickwork. The whole was surmounted by that singular coved cornice which seems to have been universal in Roman basilicas, though not found anywhere else that I am aware of.

The two most interesting adjuncts to this cathedral are the two tombs standing to the northward. According to the mediæval tradition the one was the tomb of Honorius and his wives, the other the church of St. Andrew. Their position, however, carefully centred on the spina of the circus of Nero, where the great apostle suffered martyrdom, seems to point to a holier and more important origin. My own conviction is that they were erected to mark the places where the apostle and his companions suffered. It is besides extremely improbable that after the erection of the basilica an emperor should choose the centre of a circus for the burying place of himself and his family, or that he should be permitted to choose so hallowed a spot. They are of exactly the usual tomb-form of the age of Constantine, and of the largest size, being each 100 ft. in diameter.

St. Paul's.

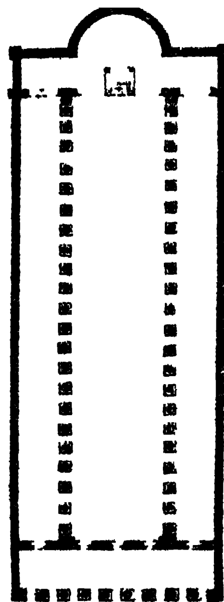
The church of San Paolo fuori delle Mura was almost an exact counterpart of St. Peter's both in design and dimensions. The only important variations were that the transept was made of the same width as the central nave, or about 80 ft., and that the pillars separating the nave from the side-aisles were joined by arches instead of by a horizontal architrave. Both these were undoubted improvements, the first giving space and dignity to the bema, the latter not only adding height to the order, but giving it, together with lightness, that apparent strength requisite to support the high wall placed over the pillars.

The order too was finer and more important than at St. Peter's, twenty-four of the pillars being taken from some temple or building (it is generally said the mausoleum of Hadrian) of the best age of



249. View of the Interior of St. Paul's, at Rome, before the fire.

Rome, though the remaining sixteen are unfortunately only very bad copies of them. These pillars are 33 ft. in height, or one third of the whole height of the building to the roof. In St. Peter's they were only a fourth, and if they had been spaced a little farther apart, and the arch made more important, the most glaring defect of these buildings would in a great measure have been avoided.



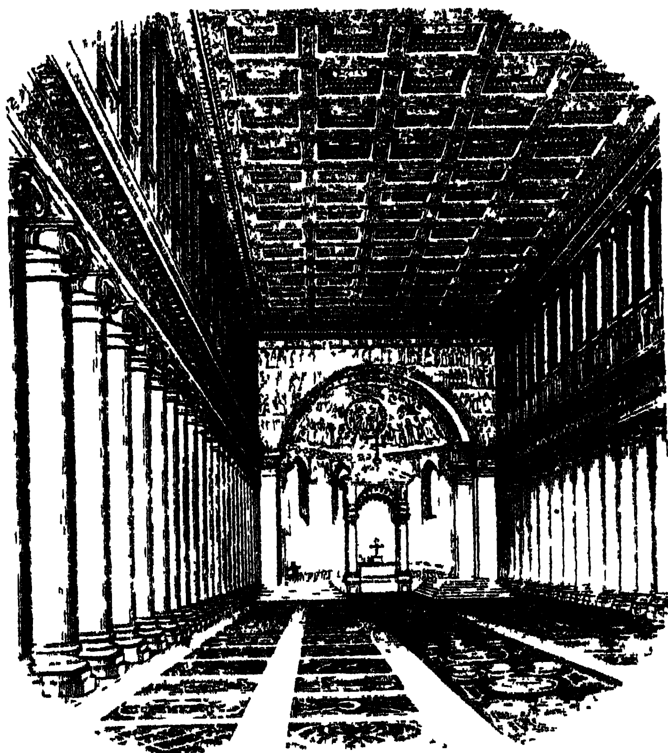
250. Plan of St. Maria Maggiore. Scale 100 ft. to 1 in.

Long before its destruction by fire in 1822 this church had been so altered as to lose many of its most striking peculiarities. The bema or presbytery was divided into two by a longitudinal wall. The greater number of its clerestory windows were built up, its atrium gone, and decay and whitewash had done much to efface its beauty, which nevertheless seems to have struck all travellers with admiration, as combining in itself the last reminiscence of Pagan Rome with the earliest forms of the Christian world. It certainly was the most interesting, if not quite the most beautiful, of the Christian buildings of that city.

The third 5-aisled basilica, that of San Giovanni Laterano, differs in no essential respect from those just described except in dimensions; it covers about 60,000 ft., and consequently is inferior in this

respect to the other two. It has been so completely altered in modern times that its primitive arrangements can now hardly be discerned while the effects of these, if there were any peculiar to it, cannot now be detected.

Like the other two, it appears to have been originally erected by Constantine, who seems especially to have affected this five-aisled form. The churches which he erected at Jerusalem and Bethlehem, both have this number of aisles. From the similarity which exists in the design of all these churches we might easily restore this building, if it were worth while. Its dimensions can easily be traced, but beyond this nothing remains of the original erection.



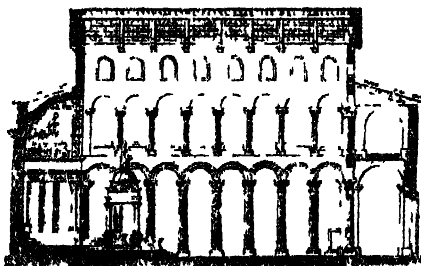
231. View of Sta. Maria Maggiore. From Gutensohn and Knapp.

Of those with three aisles by far the finest and most beautiful is that of Sta. Maria Maggiore, which, notwithstanding the comparative smallness of its dimensions, is now perhaps the best specimen of its class remaining. Internally its dimensions are 100 ft. in width by 250 to the front of the apse, the whole area being about 32,000 ft.: so that it is little more than half the size of the Lateran church, and between one-third and one-fourth of that of the other two five-aisled churches.

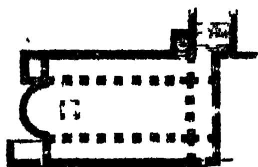
Notwithstanding this there is great beauty in its internal colonnade, all the pillars of which are of one design, and bear a most pleasing proportion to the superstructure. The clerestory too is ornamented with pilasters and panels, making it a part of the general design; and with the roof, which is paneled with constructive propriety and simplicity combined with sufficient richness, serves to make up a whole which gives a far better and more complete idea of what a basilica either was originally, or at least might have been, than any other church at Rome. It is true that both the pilasters of the clerestory and the roof are modern, and in modern times the colonnade has been broken through in two places; but these defects must be overlooked in judging of the whole.

Another defect is that the side-aisles have been vaulted in modern times, and in such a manner as to destroy the harmony that should exist between the different parts of the building. In striving to avoid the defect of making the superstructure too high in proportion to the columns, the architect has made the central roof too low either for the width or length of the main aisle. Still the building, as a whole, is perhaps the very best of all the wooden-roofed churches of Christendom, and the best model from which to study the merits and defects of this style of architecture.

Another mode of getting over the great defect of high walls over the pillars was adopted, as in Sta. Agnese and St. Lorenzo, of using a gallery corresponding with the triforium of Gothic churches. In both these instances it seems to have been suggested, if not required, by the peculiarity of the ground, which was higher on one side than on the other; but whether this was the true cause of its adoption or not, the effect was most satisfactory, and had it been persevered in, so as to bring the upper colonnade more into harmony of proportion with the other, it would have been attended with happiest results on the style. Whether it was, however, that the Romans felt the want of the broad plain space for their paintings, or that they could not bring the upper arches into proportion with the classical pillars which they made use of, the system was abandoned almost as soon as adopted, and never came into general use.



Section of Sta. Agnese. From Gutensohn and Knapp. Scale 50 ft. to 1 in.



251. Plan of Sta. Agnese. Scale 100 ft. to 1 in.

It is not now easy to judge of what the effect of this was in the original church of St. Lorenzo, owing to the numerous alterations it has undergone, for the original church of Constantine seems to have been entirely swept away. That of Pelagius which we now see is in plan somewhat like that of Sta. Agnese, only with five pillars on each side of the nave, borrowed from some ancient edifice, instead of seven, and these support a horizontal architrave instead of arches.

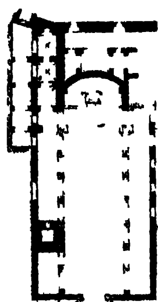


254 Restored View of the Interior of the Basilica of S. Lorenzo fuori le Mura. From Lenoir's 'Architecture Monastique.'

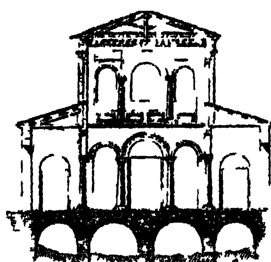
In the thirteenth century the apse was destroyed and a long nave added in that direction, so that the altar was placed where the entrance was originally situated. Making due allowance for these changes, it is probable that the annexed woodcut faithfully represents the arrangements of the building as it stood in the sixth century, and is interesting, not only for its own sake, but as representing the class of church erected at Jerusalem and elsewhere at this age, of which so very few specimens now exist. It contains also the germs of much that was afterwards reproduced in Gothic Churches. The upper gallery, after many modifications, at last settled into a triforium and the pierced stone slabs in the windows became tracery—but before these were reached a

vaulted roof was introduced, and with it all the features of the style were to a great extent modified.

The church known as that of Sta. Pudentiana is one of the very oldest and consequently one of the most interesting of those in Rome. It stands on substructions of ancient Roman date, which probably formed part of the Thermae of Novatus in the house of the Senator Pudens, who is mentioned by St. Paul at the end of his Second Epistle to Timothy, and with whom he is traditionally said to have resided during his residence in Rome. The vaults beneath the church certainly formed part of a Roman mansion, so apparently do those buildings, shown on the plan, and placed behind and on one side of the sanctuary, but whether they were used for Christian purposes before the erection of the church in the fourth century is by no means certain. In plan the church remains in all probability very much as originally designed, its most striking peculiarity being the segmental form of the apse, which may possibly have arisen from some peculiar arrangement of the original building. It was not, however, found to be pleasing in an architectural point of view, and was not consequently again employed.

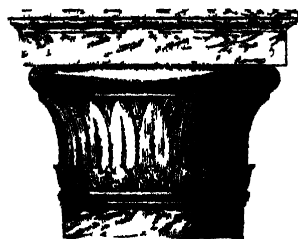


Plan of Sta. Pudentiana. Scale 100 ft. to 1 in.



256. Section of Sta. Pudentiana. From Hubsch.[1] Scale 50 ft. to 1 in.

The annexed section probably represents very nearly the original form of the nave, though it has been so encrusted with modern accretions as to render it difficult to ascertain what the first form really was. The shafts of the pillars may have been borrowed from some older edifice, but the capitals were clearly designed to support arches and must therefore be early Christian (fourth century ?), and are among the most elegant and appropriate specimens of the class now extant.



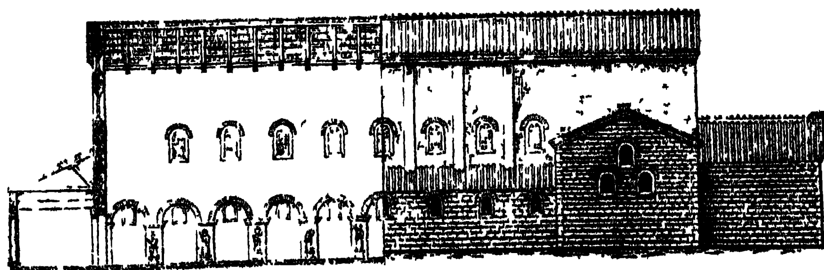
257. Capital of Sta. Pudentiana. From Hubsch.

In some instances, as in San Clemente, above alluded to, in San Pietro in Vincula, and Sta. Maria in Cosmedin, the colonnade is divided

[1] 'Altchristlichen Kirchen nach Baudenkmalen und alteren Beschreibungen,' von D. Hubsch. Carlsruhe. 1862.

into spaces of three or four intercolumniations by blocks of solid masonry, which give great apparent solidity and strength to the building, but at the expense of breaking it up into compartments, more than is agreeable, and these destroy that beauty of perspective so pleasing in a continuous colonnade. This defect seems to have been felt in the Santa Praxede, where three of these blocks are introduced in the length of the nave, and support each a bold arch thrown across the central aisle. The effect of this might have been most happy, as at San Miniato, near Florence; but it has been so clumsily managed in the Roman example, as to be most destructive of all beauty of proportion.

Some of the principal beauties as well as some of the most remarkable defects of these basilican churches arise from the employment of columns torn from ancient temples: where this has been done, the beauty of the marble, and the exquisite sculpture of the capitals and friezes, give a richness and elegance to the whole that go far to redeem or to hide the rudeness of the building in which they are encased. But, on the other hand, the discrepancy between the pillars – Doric, Ionic, and Corinthian columns being sometimes used side by side—destroys all uniformity, and the fragmentary character of the entablatures they support is still more prejudicial to the continuity of the perspective, which should be the greatest charm of these churches. By degrees, the fertile quarries of ancient Rome seem to have become entirely exhausted and as the example of St. Paul's proves, the Romans in the fourth century were incapable of manufacturing even a bad imitation, and were at last forced to adopt some new plan of supporting their arcades. The church of SS. Nereo{ed Achilleo is, perhaps, the most elegant example of this class, the piers being light octagons; but the most characteristic, as well as the most original, is the San Vincenzo alle Tre Fontane, shown in section and elevation in the woodcut No. 258. It so far deviates from the usual basilican arrangements as almost to deserve the appellation of Gothic. It has the same defect as all the rest its pier arches being too low, and for which there is no excuse here—but both internally and externally it shows a uniformity of design and a desire to make every part ornamental that produces a very pleasing effect, notwithstanding that



258. Half Section, half Elevation, of the Church of San Vincenzo alle Tre Fontane. From Gutensohn and Knapp. Scale 50 ft. to 1 in.

the whole is merely of brick, and that ornament is so sparingly applied as barely to prevent the building sinking into the class of mere utilitarian erections.

Among the most pleasing architectural features, if they may be so called, of these churches, are the mosaic pavements that adorn the greater number. These were always original, being designed for the buildings in which they are used, and following the arrangement of the architecture surrounding them. The patterns too are always elegant, and appropriate to the purpose; and as the colours are in like manner generally harmoniously blended, they form not only a most appropriate but most beautiful basement to the architecture.

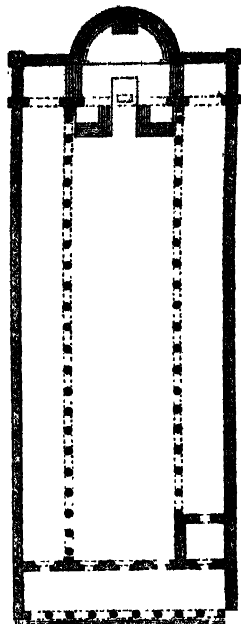
A still more important feature was the great mosaic pictures that always adorned the semi dome of the apse, representing most generally the Saviour seated in glory surrounded by saints, or else some scene from the life of the holy personage to whom the church was dedicated. These mosaics were generally continued down to nearly the level of the altar, and along the whole of the inner wall of the sanctuary in which the apse was situated, and as far as the triumphal arch which separated the nave from the sanctuary, at which point the mosaic blended with the frescos that adorned the upper walls of the central nave above the arcades. All this made up an extent of polychromatic decoration which in those dark ages, when few could read, the designers of these buildings seem to have considered as virtually of more importance than the architectural work to which it was attached. Any attempt to judge of the one without taking into consideration the other, would be forming an opinion on hearing but half the evidence; but taken in conjunction, the paintings go far to explain, and also to redeem, many points in which the architecture is most open to criticism.

Ravenna.

During the whole period when the Romanesque style was most flourishing, the city of Ravenna almost rivalled in importance the old capital of the world, and her churches were consequently hardly less important either in number or in richness than those we have just been describing. It is true she had none so large as the great metropolitan basilicas of St. Peter and St. Paul. The one five-aisled church she possessed—the cathedral—has been entirely destroyed, to make way for a very contemptible modern erection. From the plans, however, which we possess of it, it seems to have differed very considerably from the Roman examples, most especially in having no trace of a transept, the building being a perfectly regular parallelogram, half as long again as its breadth, and with merely one great apse added at the end of the central nave. Its loss is the more to be regretted, as it was, besides being the largest, the oldest church in the city, having

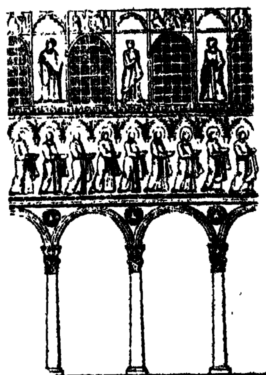
been erected about the year 400, by Archbishop Ursus. The baptistery that belonged to it has been fortunately preserved, and will be described hereafter.

Besides a considerable number of other churches which have either been lost or destroyed by repair, Ravenna still possesses two first-class three-aisled basilicas,—the San Apollinare Nuovo, originally an Arian church, built by Theodoric, king of the Goths (A.D. 493-525); and the S. Apollinare in Classe, at the Port of Ravenna, situated about three miles from the city, commenced A.D. 538, and dedicated 549. Of the two, the first-named is by far the most considerable, being 315 ft. long by 115 in width externally, while the other only measures 216 ft. in length by 104. It is now called S. Martino in Cielo d'Oro from its having been decided in the twelfth century that the other church in Classe possessed the true body of the saint to which both churches were dedicated. As will be seen by the plan, it is a perfectly regular basilica with twenty-two pillars on each side of the nave, which is 51 ft. in width The Bema is well raised, and forms a sort of incipient transept in front of the apse, and it possesses a handsome narthex with eight pillars in front.



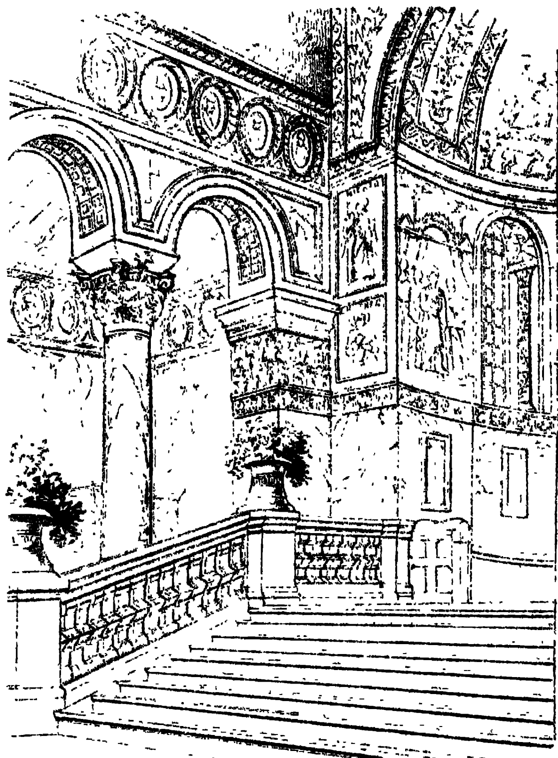
259. Plan of St. Apollinare Nuovo. From Hubsch. Scale 100 ft. to 1 in.

The great merit of these two basilicas as compared with those of Rome, arises from the circumstance of Ravenna having possessed no ruined temples whose spoils could be used in the construction of new buildings. Consequently the architects, being obliged to think for themselves and design every detail, introduced a degree of harmony into their proportions utterly unknown in the Roman examples. From the woodcut No. 260, representing three arches of the nave of S. Apollinare Nuovo, it will be seen that the pillars are pleasingly spaced; their capitals, surmounted by a block representing the architrave, suffice for the support of the arches that spring from them; the triforium belt is adorned with figures, and is of pleasing proportions;

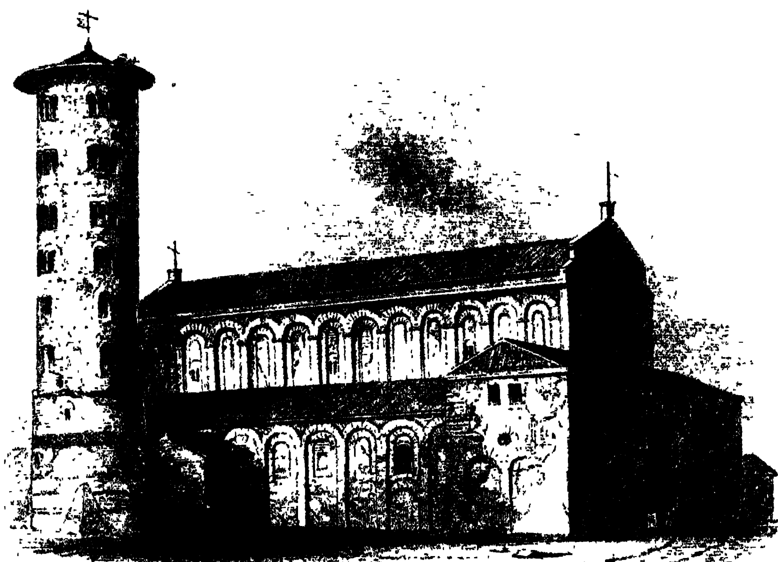


260. Arches in Church of San Apollinare Nuovo. From Quast.[1]

[1] A. F. von Quast, 'Die Altchristlichen Bauwerke von Ravenna.'



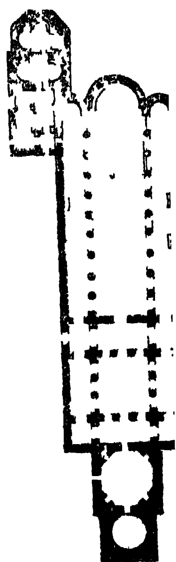
261. Part of Apse in S. Apollinare in Classe, Ravenna. From Quast.



262. S. Apollinare in Classe, Ravenna. From Quast.

and the window over each arch fills up the remaining height to the roof, without either overcrowding or leaving any space that is not easily filled up by the decorations applied. It is true the parts do not all quite harmonize, but the entire architecture of the building is an immense stride in advance of the Roman style. All this is still more apparent in the woodcut No. 261, taken from the angle where the nave joins the apse in the Apollinare in Classe, which shows a still further advance towards forming a new style out of the classical elements: a little more and the transition would be almost complete. It is still easy, however, not only to trace the derivation of every detail from the classical model, but also to see that the architect was trying to adhere to that style as far as his means and his purposes would allow.

Externally these buildings appear to have remained to the present hour almost wholly without architectural embellishment. It was considered sufficient for ornamental purposes to make the brick arches necessary for the construction slightly more prominent and important than was actually required. As if impelled by some feeling of antagonism to the practice of the heathens, the early Christians seem to have tried to make the external appearance of their buildings as unlike those of their predecessors as was possible. Whether this was the cause or not, it is certain that nothing can well be less ornamental than these exteriors; and even the *narthex*, which in the Apollinare in Classe afforded an excellent opportunity for embellishment, could not be less ornamental if it were the entrance to a barn instead of to a church of such richness and beauty as this in all its internal arrangements.

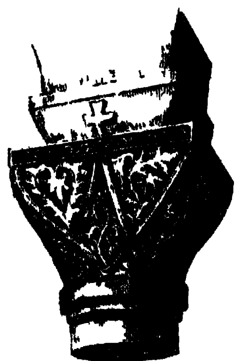


263. Church at Parenzo in Istria. From Agincourt.

PARENZO.

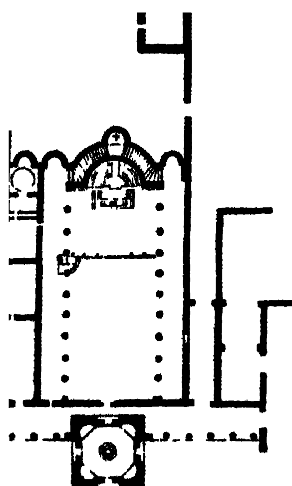
At Parenzo in Istria there is a basilica, built in the year 542 by the Bishop Euphrasius, and consequently contemporary with these examples at Ravenna. This church possesses its atrium, baptistery, and other accompaniments, which those at Ravenna have lost. It consists of a basilica in three aisles, with an apse at the end of each, and an atrium in front, beyond which is situated the baptistery; and in front of this again a tower, with a circular chamber in it, though this latter feature seems to be of more modern date. On one side at the east end is a chapel or crypt, but it is by no means clear to what age it belongs, and for what purpose it was erected. It is apparently an excrescence, while all the other parts belong to the original design. Internally the church is 121 feet in length by 32 in width, and possesses all the usual arrange-

ments of a church of that date. Some of its pillars are of the Corinthian order and are borrowed from some older edifice, but others are of pure Byzantine type (woodcut No. 264), and, were they all like this, would oblige us to defer the description of the building to a later page. It may, however, be regarded as a transition specimen, but one of such beauty as to make us regret that the barbarians on the other side of the Adriatic had not studied or appreciated its beauty. Externally the façade retains some of the painted decorations which seem to have been so fashionable at the time it was erected, but internally they have been entirely peeled off the nave, and though the apse is rich in marbles, mosaic and paintings, they are of a much later date than the building itself. As an edifice of the age of Justinian, and as showing the relative position of the various parts that made up an ecclesiastical establishment in those early times, it is singularly deserving of the attention of those to whom the history of art is a matter of interest.

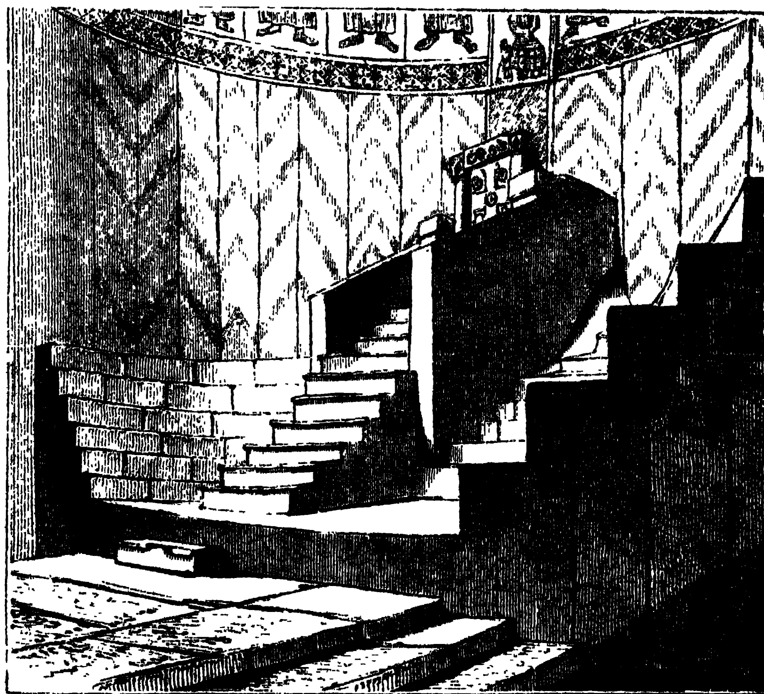

264 Capital of Pillar at Parenzo

TORCELLO.

The church at Torcello in the Venetian Lagune, is the last example it will be necessary to quote in order to make the arrangements of the Romanesque Basilicas intelligible. It was originally erected in the seventh century; and though altered, perhaps to some extent rebuilt, in the first year of the eleventh century, it still retains much of the arrangement and character of the original edifice—few churches probably possess the old arrangements in such complete ness as this, or impress the beholder with an air of greater antiquity. The whole width of the church is 71 ft. internally by 125 in length. One of its most striking peculiarities is the disproportional width of the central as compared with the side aisles, the latter being only 7 ft. wide. A screen of six pillars divides the nave from the sanctuary. Perhaps, however, the most interesting part of this church is the interior of its apse, which still retains the bishop's throne, surrounded by six ranges


26 . Plan of Church at Torcello. Scale 100 ft. to 1 in.

of seats for his presbytery, arranged like those of an ancient theatre. It presents one of the most extensive and best preserved examples of the fittings of the apse, and gives a better idea of the mode in which the apses of churches were originally arranged, than anything that is to be found in any other church, either of its age or of an earlier period.



266. Apse of Basilica at Torcello.

Like Sta. Pudentiana (woodcut No. 255) and Parenzo, this church possesses a small side chapel, a vestry or sanctuary, on the Gospel side of the altar, and the remains of a very perfect baptistery may still be traced in front of the west door. This was a square block, externally, measuring 37 ft. each way; internally an octagon, with the angles cut into hemispherical niches. In the rear of the church stood the campanile, and across a narrow passage the conventual buildings; in front of which now stands the beautiful little church of Sta. Fosca, the whole making up a group of nearly unrivalled interest considering its small dimensions.

Other examples might be quoted differing in some slight respect from those just given, but the above are probably sufficient to explain the general arrangements of the early Basilican churches, and the style of their architecture, so long as it remained pure Romanesque; in

other words, so long as it continued in Italy to be a direct deduction from the Roman style, without any foreign admixture or reaction. It might be instructive to speculate on what the style might have become if left alone to develope itself on its native soil, but it would be extremely difficult to make the subject clear without a much larger amount of illustration than is admissible, and which in a history would be out of place. Simultaneously with the elaboration of the rectangular form of church by the Italians, the Byzantines were occupied with the same task: but, being freer from the trammels of tradition and less influenced by examples, they early arrived at forms much more divergent from those of the classical period than those of Italy, and their style, reacting on the Italian, produced that very beautiful combination, of which Pisa Cathedral is a type, and St. Mark's at Venice an extreme example. This style generally pervaded the whole south of Italy, with the exception of Rome; and, from the elements of which it was composed, may fairly be designated Byzantine Italian.

While this was going on in the south the Longobards, the Goths, and other Barbarians who invaded the north of Italy, seized on this type and worked it out in their own fashion. They, however, had a mania for stone vaulted roofs, which led to most important modifications of the style. It may probably be correctly asserted that no Romanesque or Byzantine Italian church has, or ever had, a vaulted nave. On the other hand, there is hardly a Barbarian church which the builders did not aspire to vault, though they were frequently unable to accomplish it. It was this vaulting mania which led to the invention of compound piers, pointed arches, buttresses, pinnacles, and all the numerous peculiarities of the Gothic style; and which, reacting on northern Italy, produced the Ghibeline or Italian Gothic Style.

No exact boundary can be drawn between these two modifications of style varied, as Byzantine or Gothic influences ebbed or flowed during the middle ages. Venice and Pisa, and all Calabria, were generally influenced by their intercourse with the East, while the whole of the north of Italy and away from the coast as far down as Sienna and Orvieto the strong hand of the Teuton made itself felt.

Yet Italy cannot be said to have been successful in either style. Her superior civilization enabled her to introduce and use an elegance of detail unknown north of the Alps; but she did not work out the Basilican type for herself; she left it to others to do that for her, and consequently never perfectly understood what she undertook, or why it was done. The result is that, though great elegance is found in parts, Italy can hardly produce a single church which is satisfactory as a design; or which would be intelligible without first explaining the basework of those true styles from which its principal features have been borrowed.

CHAPTER III.

CIRCULAR ROMANESQUE CHURCHES.

CONTENTS.

Circular Churches — Tomb of Sta. Costanza — Churches at Perugia, Nocera, Ravenna, Milan — Secular Buildings.

In addition to the Pagan basilicas and temples, from which the arrangements of so many of the Christian edifices were obtained, the tombs of the Romans formed a third type, from which the forms of a very important class of churches were derived.

The form which these buildings retained, so long as they remained mere sepulchres appropriated to Pagan uses, has been already described (pp. 318 to 322). That of Cecilia Metella and those of Augustus and Hadrian were what would now be called "chambered tumuli;" originally the sepulchral chamber was infinitessimally small as compared with the mass, but we find these being gradually enlarged till we approach the age of Constantine, when, as in the tombs of the Tossia Family, that called the tomb of Helena (woodcut No. 218) and many others of the same age, they became miniature Pantheons. The central apartment was all in all; the exterior was not thought of. Still they were appropriated to sepulchral rites, and these only, so long as they belonged to Pagan Rome. The case was different when they were erected by the Christians. No association could be more appropriate than that of these sepulchral edifices, to a religion nursed in persecution, and the apostles of which had sealed their faith with their blood as martyrs; and when the Sacrament for the dying and the burial service were employed, it was in these circular churches that it was performed. But besides the viaticum for the departing Christian, the Church provided the admission Sacrament of Baptism for those who were entering into communion, and this was, in early days at least, always performed in a building separate from the basilica. It would depend on whether marriage was then considered as a sacrament or a civil contract, whether it was celebrated in the basilica or the church; but it seems certain that the one was used almost exclusively as the business place of the community, the other as the sacramental temple of the sect. This appears always to have been the case, at least when the two forms existed together, as they almost always did in the great ecclesiastical establishments of Italy. When the church was copied from a temple, as in the

African examples above described, it is probable it may have served both purposes. But too little is known of the architecture of this early age, and its liturgies, to speak positively on the subject.

The uses and derivation of these three forms of churches are so distinct that it would be extremely convenient if we could appropriate names to distinguish them. The first retains most appropriately the name of Basilica and with sufficient limitation to make it generally applicable. The word ecclesia, or eglise, would equally suffice for the second but that it is not English, and has been so indiscriminately applied, that it could not now be used in a restricted sense. The word kirk, or as we soften it into church, would be appropriate to the third,[1] but again it has been so employed as to be inapplicable. We therefore content ourselves with employing the words Basilica, Church and Round Church, to designate the three, employing some expletive when any confusion is likely to arise between the first two of the series.

The most interesting feature of the early Romanesque circular buildings is that they show the same transitional progress from an external to an internal columnar style of architecture which marked the change from the Pagan to the Christian form of sacred edifice. It is perhaps not too much to assert that no ancient classic building of circular form has any pillars used constructively in its interior. Even the Pantheon, though 143 ft. 6 in. in diameter, derives no assistance from the pillars that surround it internally they are mere decorative features. The same is true of the last Pagan example we are acquainted with,—the temple or tomb which Diocletian erected in his palace at Spalatro (woodcut No. 186). The pillars do fill up the angles there, but the building would be stable without them. The Byzantine architects also generally declined to avail themselves of pillars to support their domes, but the Romanesque architects used them almost as universally as in their basilicas.

Another very striking peculiarity is the entire abandonment of all external decoration. Roman circular temples had peristyles, like those at Tivoli (woodcut No. 185) and that of Vesta in Rome. Even the Pantheon is as remarkable for its portico as its dome, so is that known as the Torre dei Schiavi,[2] but it is only in the very earliest of the Christian edifices that we find a trace of a portico, and even in them hardly any attempt at external decoration. The temples of the Christians

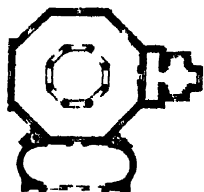
[1] That is on the supposition that the word kirk is derived from the Latin word 'circus," "circular," as the French term it, "cirque." My own conviction is that this is certainly the case. The word is only used by the Barbarians as applied to a form of building they derived from the Romans. Why the Germans should employ *κυριακὸν οἶκος*, when neither the Greeks nor the Latins used that name, is a mystery which those who insist on these very improbable names have as yet failed to explain.

[2] Isabelle, 'Edifices Circulaires,' plates 26 and 27.

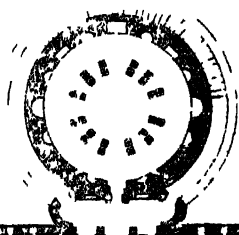
were no longer shrines to contain statues and to which worship might be addressed by people outside, but had become halls to contain the worshippers themselves while engaged in acts of devotion.

The tomb of the Empress Helena (woodcut No. 218) is one of the earliest examples of its class. It has no pillars internally, it is true, but it likewise has none on the exterior—the transition was not then complete. The same is the case with the two tombs in the Spina of the Circus of Nero (woodcut No. 217). They too are astylar, but their external appearance is utterly neglected.

When from these we turn to the Tomb or Baptistery of Constantine, built sometime afterwards (woodcut No. 267), we find the roof supported by a screen of eight columns, two storeys in height, and through all its alterations can detect the effort to make the interior ornamental. It has, however, a portico, but this again is practically an interior, both ends being closed with apsidal terminations, so that it really forms a second apartment, rather than a portico. In both these respects it is in advance of the building next to it in age that we know of—the octagon at Spalatro—which it otherwise very much resembles. The eight internal pillars instead of being mere ornaments have become essential parts of the construction, and the external peristyle has disappeared, leaving only the fragment of a porch.

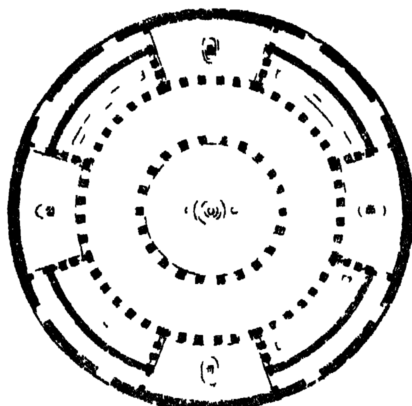

267. Baptistery of Constantine. From Isabelle. Scale 100 ft. to 1 in.

The tomb which the same Emperor erected to contain the remains of his daughter Constantia, is another example of the same transitional style. The interior in this instance is vaulted, but so timidly that twenty-four pillars are employed to sustain a weight for which half that number would have been amply sufficient. In the square niche opposite the entrance stood, and stands, the sarcophagus of the princess. The roof of the aisle is adorned with paintings of the vintage and scenes of rural life, which, like all those on the tombs of Pagan Rome, have no reference to the sepulchral uses to which the building was dedicated. The whole internal diameter of the tomb is 73 ft., that of the dome 35.


268. Plan of the Tomb of Sta. Costanza, Rome. From Isabelle, 'Edifices Circulaires.' Scale 100 ft. to 1 in.

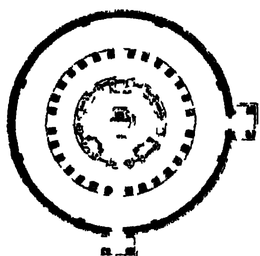
In front of the building is a small crypto-porticus similar in arrangement to that of her father's tomb, and beyond this is an oblong space with circular ends, and surrounded on all sides by arcades; its dimensions were 535 ft. by 130, and, though so ruined as hardly to allow of its arrangements being restored, it is interesting, as being perhaps

the only instance of the "*forum*," which it is probable was left before all tombs in those times, and traces of which may perhaps be found elsewhere, though as yet they have not been looked for.



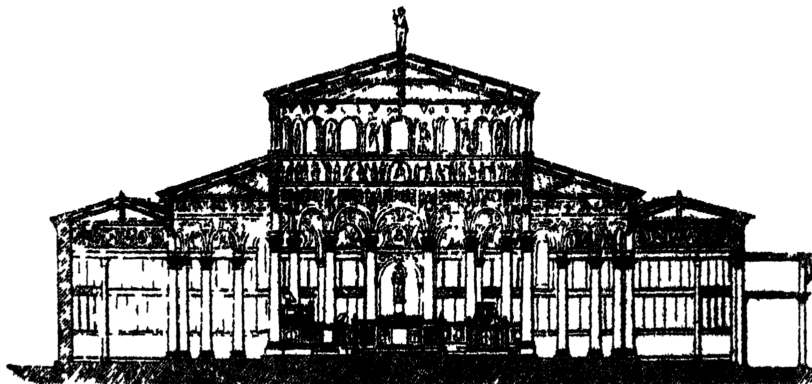
269 Plan of San Stephano Rotondo. From Gutensohn and Knapp. Scale 100 ft. to 1 in.

The only other important circular building within the walls of Rome of this early age is that known as S. Stephano Rotondo. Though there is nothing to fix its date with any precision, it is almost certain that it belongs to the fifth and sixth centuries of the Christian era. It is 210 ft. in diameter, and its roof was supported by two ranges of columns, circularly disposed in its interior, and on the first or inner range rested a horizontal architrave like that of St. Peter's. In the outer one the pillars support arches like those of St. Paul's. All the pillars are taken from older buildings. The outer aisle was divided into eight compartments; but in what manner, and for what purpose, it is not now easy to ascertain, owing to the very ruined state of the building. Nor can it be determined exactly how it was roofed, though it is probable that its arrangements were identical with those of the great five-aisled basilicas, which it closely resembles, except in its circular shape.



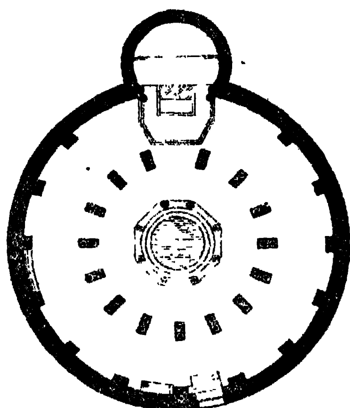
270 Plan of Sti Angeli, Perugia. From Isabelle. Scale 100 ft. to 1 in.

This is more clear in another church of the same age, that of Sti. Angeli, at Perugia, which is very similar in its disposition. Of this

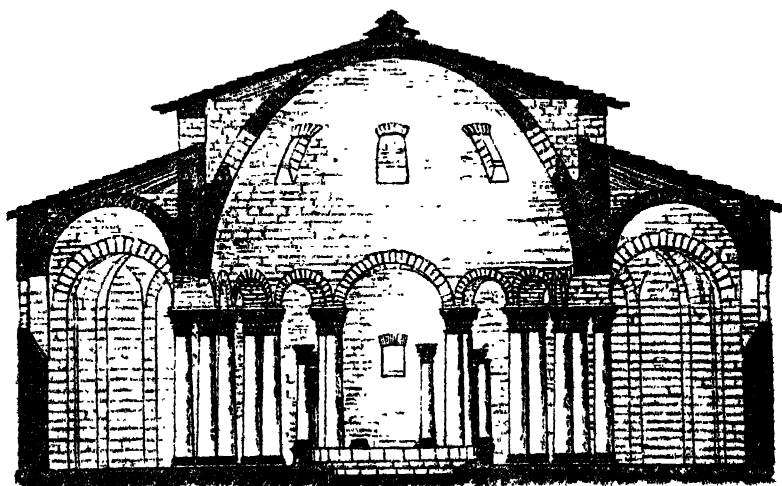


271 Section of Sti Angeli, Perugia. From Isabelle, 'Edifices Circulaires.' No scale.

building a section is here shown, as given by M. Isabelle—perhaps not quite to be depended upon in every respect, but still affording a very fair representation of what the arrangements of the circular wooden-roofed churches were. Its dimensions are less than those of San Stephano, being only 115 ft. in diameter; but it is more regular, the greater part of its materials being apparently original, and made for the place they occupy. In the church of San Stephano, the tomb-shaped circular form was probably used as symbolical of his martyrdom. That at Perugia was most likely originally a baptistery, or it may also have been dedicated to some martyr; but in the heart of Etruria this form may have been adopted for other reasons, the force of which we are hardly able at the present day to appreciate, though in all cases locality is one of the strongest influencing powers as far as architectural forms are concerned.


272. Plan of Baptistery at Nocera dei Pagani. Scale 50 ft. to 1 in.

At Nocera dei Pagani, on the road between Rome and Naples, there is an extremely beautiful circular church, built undoubtedly for the purpose of a baptistery, and very similar in plan and general arrangement to the tomb of Constantia, now known as the Baptistery of St. Agnese, though somewhat larger, being 80 ft. in diameter. Its principal merit is the form of its dome, which is not only correct in a scientific point of view, but singularly graceful internally. Externally this building for the first


273. Section of Baptistery at Nocera dei Pagani. From Isabelle, 'Edifices Circulaires.'

time introduces us to a peculiarity which had as much influence on the Western styles as any of those pointed out above. As before observed (p. 380) the Romanesque architects never attempted to vault their rectangular buildings, but they did frequently construct domes over their circular edifices. But here again they did not make the outside of the dome the outline of their buildings as the Romans had always done before the time of Constantine, and as the Byzantines and Saracens invariably did afterwards; but they employed their vault only as ceiling internally, and covered it as in this instance, with a false wooden roof externally. It may be difficult to determine whether this was a judicious innovation or not, but this at least is certain, that it had as much influence on the development of the Gothic style as the vaulting mania itself. In the tenth and eleventh centuries many attempts were made to construct true roofs of stone, but unsuccessfully; and from various causes, which will be pointed out hereafter, the idea was abandoned, and the architects were forced to content themselves with a stone ceiling, covered by a wooden roof, though this is one of the radical defects of the style, and one of the principal causes of the decay and destruction of so many beautiful buildings.

Ravenna.

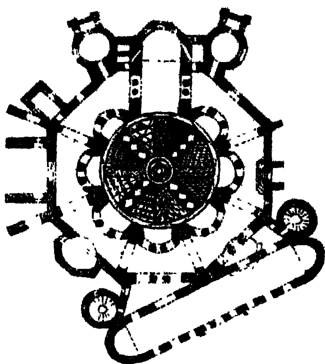
Ravenna possesses several circular buildings, almost as interesting as those of the capital, the first being the baptistery of S. John, belonging to the original basilica, and consequently one of the oldest Christian buildings of the place. Externally it is a plain octagonal building, 40 ft. in diameter. Internally it still retains its original decorations, which are singularly elegant and pleasing. Its design is somewhat like that of the temple at Spalatro, but with arcades substituted everywhere for horizontal architraves, the century that elapsed between those two epochs having sufficed to complete the transition between the two styles.

Far more interesting than this is the great church of St. Vitale, the most complicated, and at the same time, perhaps, the most beautiful of the circular churches of that age. In design it is nearly identical with the Minerva Medica at Rome,[1] except in its being an octagon instead of a decagon, and that it is wholly enclosed by an octagonal wall, whereas the Roman example has in addition two curvilinear wings, enclosing its sides. There are also some minor alterations, such as the introduction of galleries, and the prominence given to the choir; but still nothing at all to justify the title of Byzantine, usually applied to this church. It is in reality a bad copy from a building in Rome, and very unlike any building in the East we are acquainted with, though

[1] See p. 323.

no doubt there are certain forms of similarity, as indeed must be found in all the buildings of the age before the final separation of the two Churches took place.

As will be seen from the annexed plan, the diameter of the external octagon is 110 ft., of the internal one only 50, so that the dome here is a third less than that of its prototype, and so completely had the architects degenerated from the dome builders of Rome, that instead of the scientific construction of the Minerva Medica, this is wholly composed of earthen pots, and protected by a wooden roof. It is true these pots have been used in the East for domes and roofs from the earliest ages, that they form as stable and as permanent a mode of covering as stone itself, and that they might with facility be so used as to surpass the heavier material for this purpose. But such is not the case here: and though it appears invidious to blame that which has stood the wear and tear of thirteen centuries, and has witnessed the fall of so many of its younger and more aspiring rivals, the construction of this dome serves rather to show how excellent the expedient is, than the method by which it can best be applied.



Plan of St. Vitale, Ravenna
From Isabelle

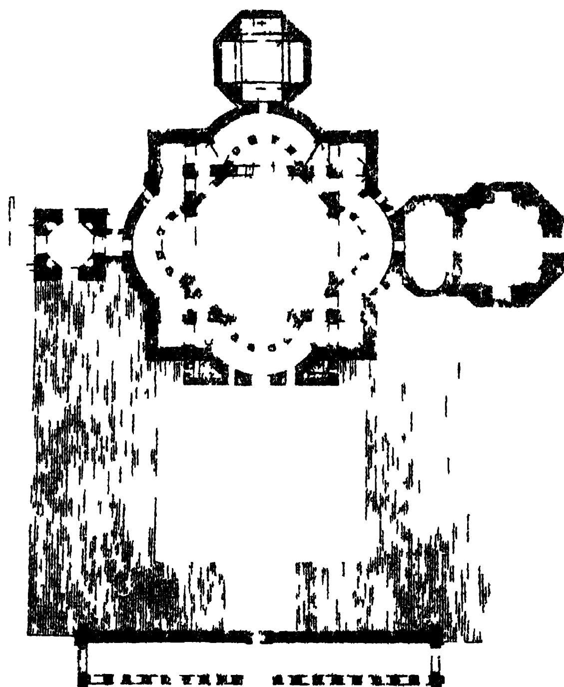


275. Section of St. Vitale, Ravenna. From Isabelle. Scale 50 ft. to 1 in.

Internally a good deal has been done in modern times to destroy the simplicity of the original effect of the building; but still there is a pleasing result produced by alternating the piers with circular columns, and a lightness and elegance about the whole design that render it unrivalled in the Western world among churches of its class. It seems to have been admired by its contemporaries as much as it is in modern

times. Charlemagne at all events copied it for his own tomb at Aix-la-Chapelle, and the architects of many other circular buildings of that age appear to have derived their inspiration from this one

The church of San Lorenzo at Milan, had it not been so much altered in modern times, would take precedence of San Vitale in almost every respect. The date of its erection is not known, though it certainly must be as early if not earlier than the time of Justinian Down to the 8th century it was the cathedral of that city It was burnt to the ground in 1071, and restored in 1119 the dome then erected fell in 1571, on which it underwent its last transformation from the hands of Martino Bassi and Pellegrini, who so disfigured its ancient details as to leave considerable doubt as to its antiquity



276 Plan of S Lorenzo at Milan From Quast Alt Christlichen &c Scale 100 ft. to 1 in

Its plan, however, seems to have remained unchanged, and shows a further progress towards what afterwards became the Byzantine style than is to be found either in the Minerva Medica or in San Vitale. It is in fact the earliest attempt to bring the circular church to a square shape, and except that the four lateral colonnades are flat segments of circles and that there is a little clumsiness in the angles, it is one of the most successful designs handed down from that early age.

The dome as it now stands is octagonal, which the first dome certainly could not have been. Its diameter is 70 ft., nearly equal to

that of the Minerva Medica, and the whole diameter of the building is internally 142 ft.

In front of the church, in the street, is a handsome colonnade of pillars, borrowed from some ancient temple—it is said from one dedicated to Hercules; this leads to a square atrium, now wholly deprived of its lateral arcades; and this again to a façade, which has been strangely altered in modern times. Opposite this, to the eastward of the church, is an octagonal building, apparently intended as a tomb-house; and on the north side a similar one, though smaller. On the south is the baptistery, about 45 ft. in diameter, approached by a vestibule in the same manner as that of Constantine at Rome, and as in the tomb of his daughter Constantia. All these, however, have been so painfully altered, that little remains besides the bare plan of the building; still there is enough to show that this is one of the oldest and most interesting of the Christian churches of Italy.

The building now known as the baptistery at Florence is an octagon, 108 ft. in diameter externally. Like the last mentioned church, it was originally the cathedral of the city, and was erected to serve as such apparently in the time of Theodelinda queen of the Lombards. If this was so, it certainly had not originally its present form, and most probably those columns which now stand ranged round the walls, at that time stood in the centre, as in the Roman examples. If the original roof was of wood, it was probably in two storeys, like that of the baptistery of Constantine, or it may have been a dome of more solid materials like that of the Sta. Costanza.

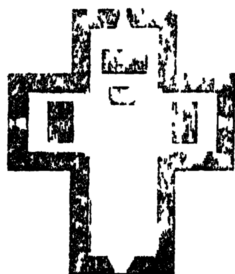
At the same time when the new cathedral was built, the older edifice appears to have been remodelled both internally and externally by Arnolpho da Lapo, and both its form and decoration so completely changed, that it must be considered rather as a building of the 13th century than of the 6th, in which it seems originally to have been erected.[1]

There can be little doubt that many other similar buildings belonging to this age still exist in various parts of Italy, for it is more than probable that, at a time when the city was not of sufficient importance, or the congregation so numerous as to require the more extended accommodation of the basilica, almost all the earlier churches were circular. They either, however, have perished from lapse of time, or have been so altered as to be nearly unrecognisable. We here, in consequence, come again to a break in the chain of our sequence, and when we again meet with any circular buildings in Italy, their features are

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[1] In this building they now show a sarcophagus of ancient date, said to be that of Galla Placidia, daughter of Theodosius. She, however, was certainly buried at Ravenna, but it may be of her time, and in these ages it is impossible to distinguish between baptisteries and tombs.

so distinctly Gothic or Byzantine, that they must be classed with one or other of these modifications. The true Romanesque had nearly come to an end when Alboin the Lombard had made himself master of the greater part of Italy about the year 575.



277. Tomb of Galla Placidia, Ravenna. From Quast. No scale.

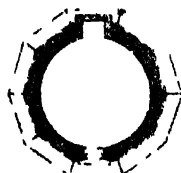
Before leaving this branch of the subject there are two small buildings at Ravenna which it is impossible to pass over, though their direct bearing on the history of this subject is not so apparent as it is in the case of other buildings just described.

The first and earliest is the tomb of Galla Placidia, now known as the church of SS. Nazario and Celso, and must have been erected before the year 450. It is singular among all the tombs of that age from the abandonment in it of the circular for a cruciform plan. Such forms, it is true, are common in the chambers of tumuli and also among the catacombs, while the church which Constantine built in Constantinople and dedicated to the Apostles, meaning it however as a sepulchral church, was something also on this plan. Notwithstanding, however, these examples, this must be considered as an exceptional form, though its diminutiveness (it being only 25 ft. by 30 internally) might perhaps account for any caprice. Its great interest to us consists in its retaining not only its original architectural form, but also its polychromatic decorations nearly in their original state of completeness.[1] The three arms of the cross forming the receptacles for the three sarcophagi is certainly a pleasing arrangement, but is only practicable on so small a scale. Were the building larger, it would lose all appropriateness as well as all effect.



278. Capital of Pillars forming Peristyle round Theodoric's Tomb. From Hubsch.

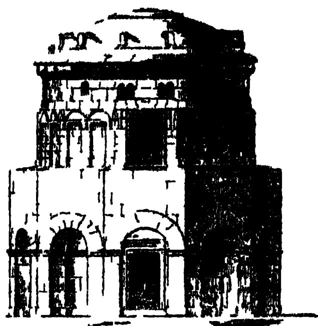
Far more interesting than this — architecturally at least — is the tomb of Theodoric, the Gothic king, now known as Santa Maria Rotunda. The lower storey is a decagon externally, enclosing a cruciform crypt. It is 45 ft. in diameter, each face being ornamented by a deep niche. These support a flat terrace, on which originally stood a range of small pillars supporting arches which surrounded the upper storey. These have all been removed, though their form, as shewn above, can be restored from fragments found. On the face of the tomb itself are the sinkings for the architraves and vaults which they supported. The



279. Plan of Tomb of Theodoric. Scale 50 ft. to 1 in.

[1] These are well illustrated in Quast, 'Alt Christlichen Bauwerke zu Ravenna.' Also by Hubsch and others.

most singular part of the building is the roof, which is formed of one great slab hollowed out into the form of a flat dome internally 30 ft. and externally 35 ft. in diameter—and which certainly forms one of the most unique and appropriate coverings for a tomb perhaps anywhere to be found. Near the edge are a range of false dormer windows, which evidently were originally used as handles by means of which the immense mass was raised to its present position. In the centre of the dome is a small square pedestal on which, it is said, once stood the urn which contained the ashes of its founder.



240. Elevation of Tomb of Theodoric, Ravenna. From Isabelle, 'Edifices Circulaires.'

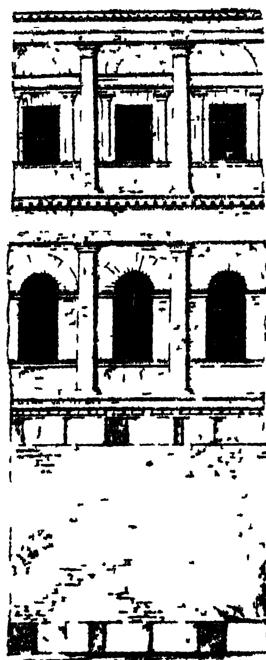
The model of this building seems probably to have been the mole of Hadrian, which Theodoric saw, and must have admired during his celebrated visit to Rome. The polygonal arrangements of the exterior and the substitution of arcades for horizontal architraves, were only such changes as the lapse of time had rendered indispensable. But the building of the ancient world which it most resembles is the Tour Magne at Nimes. In both cases we have the polygonal basement containing a great chamber, and above this externally the narrow ledge approached by flying flights of steps. We cannot now tell what crowned the French example, though the fact of an urn crowning the tomb at Ravenna points to an identical origin, but we must obtain a greater number of examples before we can draw any positive conclusions as to the origin of such forms. Meanwhile, however, whether we consider the appropriateness of the forms, the solidity of its construction, or the simplicity of its ornaments and details, this tomb at Ravenna is not surpassed by any building of its class and age.

Though the investigation of the early history of these circular forms of churches is not so important as that of the rectangular basilicas, it is extremely interesting from the influence they had on the subsequent development of the style. In Italy it is probable that one half of the early churches were circular in plan, and one such is still generally retained attached to each cathedral as a baptistery. Except for this purpose, however, the form has generally been superseded, the rectangular being much easier to construct, more capable of extension, and altogether more appropriate to the ritual of the Christian community. In France the circular form was early absorbed into the basilica, forming the chevet or apse. In Germany its fate was much the same as in Italy, but its supercession was earlier and more complete. In England some half dozen examples are known to exist, and in Spain they have yet to be discovered.

Had the Gothic architects applied themselves to the extension and elaboration of the circular form with the same zeal and skill as was displayed in that task by their Byzantine brethren, they might probably have produced something far more beautiful than even the best of our mediæval cathedrals, but when the Barbarians began to build they found the square form with its straight lines simpler and easier to construct. It thus happened that, long before they became as civilized and expert as the Easterns were when they commenced the task, the Westerns had worked the rectangular form into one of considerable beauty, and had adapted it to their ritual, and their ritual to it. It thus became the sacred and appropriate form, and the circular or domical forms were consequently never allowed a fair trial in Western Europe.

SECULAR BUILDINGS.

Very few remains of secular buildings in the Romanesque style are now to be found in Italy. The palace of Theodoric at Ravenna, though sadly mutilated, is perhaps the best and most perfect. In all its details it shows a close resemblance to that of Diocletian at Spalatro, but more especially so to the Porta Aurea and the most richly and least classically decorated parts of that edifice, but much intermixed with mouldings and details belonging properly to the Gothic styles, which were then on the eve of being introduced into general use.



281 Palazzo delle Torre Turin. From Osten's 'Bauwerke in der Lombardei'

Another building, perhaps slightly more modern, is that which is now called the Palazzo delle Torre at Turin, which still retains the architectural ordinance of the exterior of a Roman amphitheatre, but so modified by Gothic feeling that the pilasters are even more useless and unmeaning than in its classical prototypes. In this example the style is evidently beginning to feel its own strength, and learning to dispense with the traditional forms that had so long governed it. This building, to which no more precise date can be assigned than that of the age between Justinian and Charlemagne, is probably seen the last expiring effort of Romanesque architecture in a Gothic country, though the paucity of contemporary examples renders it extremely difficult to trace the exact history of the style at this age.

In so progressive an art as architecture it is always very difficult,

sometimes impossible, to fix the exact date when one style ends and another begins. In an art so preeminently ecclesiastical as architecture was in those days, it will probably be safer to look in the annals of the Church rather than in those of the State for a date when the Romanesque expired giving birth, Phoenix-like, to the Gothic. Viewed from this point there can be little doubt but that the reign of Gregory the Great (A.D. 590 to 603) must be regarded as that in which the Latin language and the Roman style of architecture both ceased to be employed.

After this date we wander on through five centuries of tentative efforts to form a new style, and in the age of another Gregory—the VII.—we find at last the Gothic style emancipated from former traditions, and marching steadily forward with a well defined aim. What had been commenced under the gentle influence of a Theodelinda at Florence in the year 600, was completed in the year 1077 under the firmer guidance of a Matilda at Canossa.

BOOK II.

FRANCE.

CHAPTER I.

CONTENTS

Division of Subject — Pointed arches — Provence — Churches at Avignon, Arles, Alet, Fontfroide, Maguelone, Vienne — Circular churches — Towers — Cloisters.

CHRONOLOGY

	DATES		DATES
Charlemagne	A.D. 768-814	Philip III, the Hardy	A.D. 1270
Rollo, first Duke of Normandy	911	Philip IV, or the Fair	1285
Hugh Capet	987	Philip VI of Valois	1328
William II of Normandy, or the Conqueror	1055-1086	Battle of Crecy	1346
Henry I of France	1031	John II, the Good	1350
Philip I, or l'Amoureux	1060	Charles V, the Wise	1364
Louis VI, or le Gros	1108	Charles VI, the Beloved	1380
Louis VII, or le Jeune	1137	Charles VII, the Victorious	1422
St Bernard of Clairvaux	1091-1153	Joan of Arc	1412-1431
Philip II, or l'Auguste	1180	Louis XI	1461
Louis VIII, or the Lion	1223	Charles VIII	1483
Louis IX, or the Saint	1226	Louis XII	1498
		Francis I	1515

To those who do not look beyond the present, France appears to be one of the most homogeneous of all the countries of Europe, inhabited by a people speaking one language, professing one religion, governed by the same laws, and actuated by the same feelings and aspirations; yet it certainly is not so in reality, and in the middle ages the distinctions between the various races and peoples were strongly marked and capable of easy definition. Wars, persecutions, and revolutions, have done much to obliterate these, and the long habit of living under a centralized despotism has produced a superficial uniformity which hides a great deal of actual diversity. The process of fusion, commenced apparently about the reign of Louis the Saint (A.D. 1226), and has gone on steadily ever since. Before his time France was divided into six or eight great ethnographic provinces which might now be easily mapped

out, though their boundaries frequently differed widely from the political division of the land.

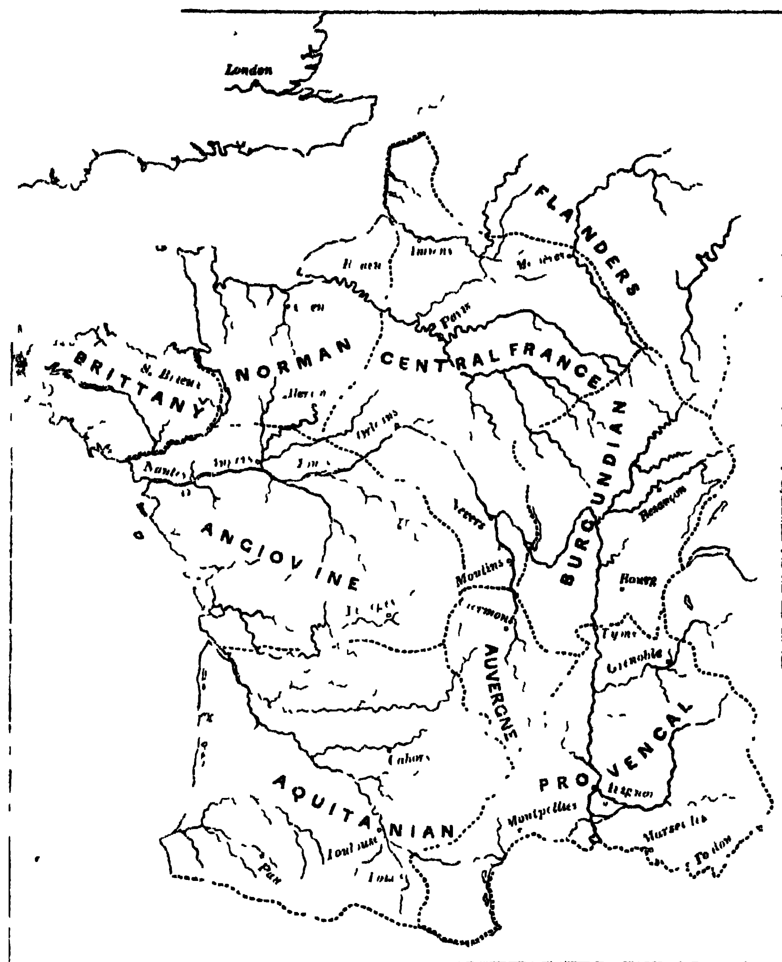


Diagram of the Architectural Divisions of France.[1]

No systematic attempt has yet been made to construct an ethnographic map of the country from the architectural remains, though it is easy to see how it might be done. What is wanted is that some com-

[1] A small chart of the same sort has been published by M. de Caumont,[a] which, though an improvement, still leaves much to be desired; but until every church is examined, and every typical specimen at least published, it is impossible to mark out more than the general features of the chart. Imperfect, however, as they are in this one, they are still more numerous and more detailed than it will be easy for us to follow and to trace out in the limited space of this work.

[a] 'Abecedaire d'Architecture,' p. 171.

petent archæologist should do for the ethnography of France what Dr. W. Smith did at the end of the last century for the geology of England. Like that early pioneer of exact knowledge in his peculiar department, he must be content to wander from province to province, from village to village, visiting every church, and examining every architectural remain, comparing one with another, tracing their affinities, and finally classifying and mapping the whole. It is probable that the labour of one man would hardly suffice for this purpose. Monographs would be required to complete the task, but it is one of such singular interest that it is hoped it may soon be undertaken.

One of the great difficulties in attempting anything of the sort at present is the nomenclature. When the science is further advanced, such names as Silurian, Cambrian, &c., will no doubt be invented, but at present we must be content with the political name which seems most nearly to express the ethnographical distribution, though in scarcely a single instance will these be found strictly correct, all in consequence being open to adverse criticism. In France it frequently happened that two or more ethnographic provinces were united under one sceptre—eventually all were merged into one—and during the various changes that took place in the middle ages, it was only by accident that the political boundary exactly agreed for any great length of time with the ethnographical.

In Germany, on the contrary, a single race is and was cut up into numerous political divisions, so that it becomes, from the opposite cause alone, equally difficult to apply a nomenclature which shall correctly represent the facts of the case.

In such a work as this it would be manifestly absurd to attempt to adjust all this with anything like minute accuracy, but the principal features are so easily recognized that no great confusion can arise in the application of such names as are usually employed, and it is to be hoped that before long a better system of nomenclature will be invented and applied.

We may rest assured of one thing, at all events, which is that the architectural remains in France are as sufficient for the construction of an ethnographic map of that country as the rocks are for the compilation of a geological survey. If the one opens out to the student an immense expanse of scientific knowledge, the other is hardly of less interest, though in a less extended field. There are few studies more pleasing than that of tracing the history of man through his works, and none bring the former condition of humanity so vividly back to us as those records which have been built into the walls of their temples or their palaces by those who were thus unconsciously recording their feelings for the instruction of their posterity.

The first thing that strikes the student in examining architecturally

the map of France is the recurrence of the same phenomenon as was remarked in that of Italy, a division into two nearly equal halves by a boundary line running east and west. In both countries, to the southward of this line the land was occupied by a Romanesque people, who, though conquered, were never colonized by the Barbarians to such an extent as to alter their blood or consequently the ethnographic relations of the people. North of the line the Goths and Lombards in Italy, and the Franks in Gaul, settled in such numbers as to influence very considerably the status of the races, in some instances almost to the obliteration of their leading characteristics.

In France the boundary line follows the valley of the Loire near its northern edge till it passes behind Tours; it crosses that river between that city and Orleans, follows a somewhat devious course to Lyons, and up the valley of the Rhone to Geneva.

In the middle ages the two races were roughly designated as those speaking the Langue d'oc and the Langue d'œil—somewhat more correctly those to the south were called Romance,[1] those to the north Frankish; but the truth is, the distinction is too broad to be now clearly defined, and we must descend much more into detail before any satisfactory conclusion can be arrived at.

On the south of the line, one of the most beautiful as well as the best defined architectural provinces is that I have ventured to designate as Provence or Provençal. Its limits are very nearly coincident with those of Gallia Narbonesis, and "Narbonese" would consequently be a more correct designation, and would be adopted if treating of a classical style of art. It has, however, the defect of including Toulouse, which does not belong to the province, and consequently the name affects an accuracy it does not possess. It may, therefore, be better at present to adopt the vague name of the "Province" *par excellence*, especially as Provençal is a word applied by French authors to literary matters much in the sense it is here used to define an architectural division. The whole of the south coast of France from the Alps to the Pyrenees belongs to this province, and it extends up the valley of the Rhone as far as Lyons, and is generally bounded by the hills on either side of that river.

Perhaps the best mode of defining the limits of the Aquitanian province would be to say that it includes all those towns whose names end with the Basque article *ac*, consequently indicating the presence at some former period of a people speaking that language or something

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[1] The use of this term is a little awkward at first from its having another meaning in English; it has, however, been long used by English etymologists to distinguish the Romance languages, such as Italian, Spanish, and French, from those of Teutonic origin, and is here used in precisely the same sense as applied to architecture—to those styles derived from the Roman, but one degree more removed from it than the Romanesque.

very closely allied to it, or at all events differing from those of the rest of France. It is only on the eastward that the line seems difficult to define. There are some towns, such as Barjac, Quissac, Gignac, in the valley of the Rhone, in situations that would seem to belong to Provence, and until their churches are examined it is impossible to say to which they belong. On the south Aquitania is bounded by the Pyrenees, on the west by the sea, and on the north by a line running nearly straight from the mouth of the Garonne to Langeac, near to Le Puy en Velay.

The third is designated that of Anjou, or the Angiovine, from its most distinguished province. This includes the lower part of the Loire, and is bounded on the north-east by the Cher. Between it and the sea is a strip of land, including the Angoumois, Saintonge, and Vendée, which it is not easy to know where to place. It may belong, so far as we yet know, to either Aquitania or Anjou, or possibly may deserve a separate title altogether: but in the map it is annexed for the present to Poitou or the Angiovine province.

In Britany the two styles meet, and are so mixed together that it is impossible to separate them. In that district there neither is pure Romance nor pure Frankish, but a style partaking of the peculiarities of each without belonging to either.

Besides these, there is the small and secluded district of Auvergne, having a style peculiarly its own, which, though certainly belonging to the southern province, is easily distinguished from any of the neighbouring styles, and is one of the most pleasing to be found of an early age in France.

Beyond this to the eastward lies the great Burgundian province, having a well-defined and well-marked style of its own, influenced by or influencing all those around it. Its most marked characteristic is what may be called a mechanical mixture of the classical and mediæval styles without any real fusion. Essentially and constructively the style is Gothic, but it retained the use of Corinthian pilasters and classical details till late in the middle ages: Burgundy was also in the middle ages the country of monasticism *par excellence*—a circumstance which had considerable influence on her forms of art.

Taking, then, a more general view of the Southern province, it will be seen that if a line were drawn from Marseilles to Brest, it would pass nearly through the middle of it. At the south-eastern extremity of such a line we should find a style almost purely Romanesque, passing by slow and equal gradations into a Gothic form at its other terminal.

On turning to the Frankish province the case is somewhat different. Paris is here the centre, from which everything radiates; and though the Norman invasion, and other troubles of those times, with the re-building mania of the 13th century, have swept away nearly all traces of the early buildings, still it is easy to see how the Gothic style arose

in the Isle of France, and how it spread from thence to all the neighbouring provinces.

In consequence, however, of the loss of its early buildings, and of its subsequent preeminence and supercession of the earlier styles, the description of its features naturally follows that of the subordinate provinces, and concludes the history of the mediæval styles in France.

Not to multiply divisions. we may include in the Northern province many varieties that will afterwards be marked as distinct in maps of French architecture, especially at the south-east, where the Nivernois and Bourbonnois, if not deserving of separate honours, at least consist of such a complete mixture of the Frankish and Burgundian, with the Southern styles, that they cannot strictly be said to belong to any one in particular, though they partake of all. The Northern, however, is certainly the predominant element, and with that therefore they should be classed.

To the westward lies the architectural province of Normandy, one of the most vigorous offshoots of the Frankish style: and from the power of the Norman dukes in the 11th and 12th centuries, and the accidental circumstance of its prosperity in those centuries when the rest of France was prostrate from their ravages and torn by internal dissensions, the Round Gothic style shows itself here with a vigour and completeness not found elsewhere. It is, however, evidently only the Frankish style based remotely on Roman tradition, but which the Barbarians used with a freedom and boldness which soon converted it into a purely national Gothic form. This soon ripened into the complete Gothic style of the 13th century, which was so admired that it soon spread over the whole face of Europe, and became the type of all Gothic architecture.

Alsace is not included in this enumeration, as it certainly belongs architecturally to Germany. Lorraine too is more German than French, and if included at all, must be so as an exceptional transitional province. French Flanders belonged, in the middle ages, to the Belgian provinces behind it, and may therefore also be disregarded at present; but even after rejecting all these, enough is still left to render it difficult to remember and follow all the changes in style introduced by these different races, and which marked not only the artistic but the political state of France during the middle ages, when the six territorial peers of France, the Counts of Toulouse, Aquitaine, Normandy, Burgundy, Champagne, and Flanders, represented the six principal provinces of the kingdom, under their suzerain, the Count or King of Paris. These very divisions might now be taken to represent the architectural distinctions, were it not that the pre-eminence of these great princes belongs to a later epoch than the architectural divisions which we have pointed out, and which we must now describe somewhat more at length.

POINTED ARCHES.

Before proceeding to describe these various styles in detail, it may add to the clearness of what follows if the mode in which the pointed arch was first introduced into Christian architecture is previously explained. It has already been explained that the pointed arch with radiating voussoirs was used by the Assyrians as early as the time of Sargon in the 8th century B.C., and by the Ethiopians as early as that of Tirhakah. The Etrurians and Pelasgi used the form probably 12 centuries B.C., but constructed it with horizontal courses. To come nearer, however, to our own time, the Saracens certainly adopted it at Cairo in the first century of the Hegira, and never apparently used a round arch after the erection of the mosque of Ebn Touloun, A.D. 885.

The Romanesque traditions, however, prevented the Christians from adopting it in Europe till forced to do it from constructive necessities, and the mode of its introduction into the early churches in Provence renders them singularly important in enabling us to arrive at a correct solution of this much mooted question.[1]

It is hardly worth while discussing whether the form was borrowed from the East, where it had been used so long before it was known—or at least before we are aware of its being known—in Europe. It may be that the Pelasgic Greeks left examples of it in Provence, or that persons trading to the Levant from Marseilles became familiar with its uses; or it may be, though very unlikely, that it was really re-invented for the purposes to which it was applied.

In whatever way it was introduced it at least seems certain that all the churches of Provence, from the age of Charlemagne to that of St. Louis, were vaulted, and have their vaults constructed on the principle of the pointed arch. It has nevertheless long been a received dogma with the antiquaries of France as well as with those of England, that the pointed arch was first introduced in the 12th century—the first example being assumed to be the work of Abbot Suger at St. Denis (1144-52), the result of which is that all who have written on the subject of Provençal architecture have felt themselves forced to ascribe the age of the churches in question, or at least of their roofs, a date subsequent to this period.

The use to which the Provençal architects applied the pointed arch will be evident from the annexed diagram, the left-hand portion of which is a section of the roof of one of the churches at Vaison. The object evidently was to lay the roof or roofing-tiles directly on the vault, as the Romans had done on their domes, and also, so far as we

[1] For the detail of the argument I must refer the reader to a paper read by me to the Institute of British Architects on June 18th, 1849, and published in the 'Builder,' and other papers of the time. See also a paper read in the same place in the following month (July, 1849), by Sir Gardner Wilkinson.

know, on those of their thermæ. Had they used a circular vault for this purpose, it is evident, from the right hand side of the diagram, that to obtain a straight lined roof externally, and the necessary water-shed, it would have been requisite to load the centre of the vault to a most dangerous extent, as at A, whereas with the pointed arch it only required the small amount of filling up shown at B, and even that might have been avoided by a little contrivance if thought necessary.

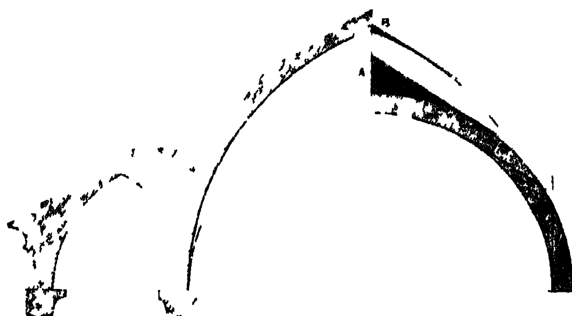


Fig. [illegible] Vaulting [illegible]

By adopting the pointed form the weights are so distributed as to ensure stability and to render the vault self-supporting. It has already been observed that the Gothic architects everywhere treated their vaults as mere false ceilings, covering them with a roof of wood—an expedient highly objectionable in itself, and the cause of the destruction, by fire or from neglect, of almost all the churches we now find in ruins all over Europe; whereas, had they adhered either to the Roman or Romance style of roofing, the constant upholding hand of man would not have been required to protect their buildings from decay.

The one obstacle in the way of the general adoption of this mode of roofing was the difficulty of applying it to intersecting vaults. The Romans, it is true, had conquered the difficulty; so had the Byzantine architects, as we shall hereafter see, displaying the ends of the vaults as ornaments; and even at St Mark's, Venice, this system is adopted, and with the additional advantage of the pointed arch might have been carried further. Still it must be confessed that it was not easy—that it required more skill in construction and a better class of masonry than was then available to do this efficiently and well. The consequence is, that all the Romance pointed vaults are simple tunnel-vaults without intersections, and that the Gothic architects, when they adopted the form, slurred over the difficulty by hiding the upper sides of their vaults beneath a temporary wooden roof, which protected them from the injuries of the weather. This certainly was one of the greatest mistakes they made; had they carefully profiled and ornamented the

exterior of the stone roofs in the same manner as they ornamented the inside, their buildings would have been not only much more beautiful, but much more permanent, and the style would have been saved from the principal falsity that now deforms it. Even as it is, if we wished intelligently to adapt the Gothic to our purposes, instead of merely copying it this is one of the points to which we ought first to turn our attention.

Another circumstance which may be alluded to here, when speaking on this subject, which led to the adoption of the pointed arch at an early age in the southern provinces of France, was the use of domes as a roofing expedient. These, it is true, are not found in Provence, but they are common in Aquitaine and Anjou—some of them certainly of the 11th century and there can be little doubt but that these are not the earliest, though their predecessors have perished or have not yet been brought to light.

There is no one who has studied the subject who is not aware how excellent, as a constructive expedient, the pointed arch is as applied to intersecting vaults, but it is not so generally understood why it was equally necessary in the construction of domes. So long as these rested on drums rising from the ground the circular form sufficed; but when it became necessary to rest them on pendentives in the angles of square or octagonal buildings the case was widely different. The early Byzantine architects—in Sta. Sophia for instance—did fit pendentives to circular arches, but it was with extreme difficulty and required very great skill both in setting out and in execution. But the superiority of the pointed form was perceived at an early date; and the Saracens, who were trammelled by no traditions, adopted it at once and employed it as a doming expedient as exclusively as the Gothic architects adhered to it in the construction of their vaults —and for the same reason— simply because it was the best mode of construction.

It is easy to explain why this should be so. In the annexed diagram, fig. 1 represents the pendentives of a dome resting on circular



FIG. 1 FIG. 2 FIG. 3

arches. At A they became evanescent, and for some distance from the centre are so weak that it is only by concealed construction that they can be made to do their work. When the pointed arch is introduced, as in fig. 2, not only is great freedom obtained in spacing, but the whole becomes constructively correct; when, as in fig. 3, an octagonal arrangement is adopted, the whole becomes still more simple and easy,

and very little adjustment is required to fit a dome to an octagon, and if the angles are again cut off, so as to form a polygon of 16 sides, all the exigencies of construction are satisfied.

At St. Front Périgeux, at Moissac, and at Loches, we find the pointed arch, introduced evidently for this purpose, and forming a class of roofs more like those of mosques in Cairo than any other buildings in Europe. It is true they now look bare and formal—their decorations having been originally painted on stucco, which has peeled off; but still the variety of form and perspective they afford internally, and the character and truthfulness they give to the roof as seen from without, are such advantages that we cannot but regret that these two expedients of stone external roofs and domes were not adopted in Gothic. Had the great architects of that style in the 13th century carried out these with their characteristic zeal and earnestness, they might have left us a style in every respect infinitely more perfect and more beautiful than the one they invented, and which we are copying so servilely, instead of trying, with our knowledge and means of construction, to repair the errors and omissions of our forefathers, and out of the inheritance they have left us to work out something more beautiful and more worthy of our greater refinement and more advanced civilisation.

The practice of the Greeks in respect to their roofs was a curious contrast to that of the Mediaeval architects. Their architecture, as before remarked, being essentially external, while that of the middle ages was internal, they placed the stone of their roofs on the outside, and took the utmost pains to arrange the covering ornamentally; but they supported all this on a framework of wood, which in every instance has perished. It is difficult to say which was the greater mistake of the two. Both were wrong, without doubt. The happy medium seems to be that which the Romance architects aimed at—a complete homogeneous roof, made of the most durable materials and ornamented both externally and internally; and there can be little doubt but that this is the only legitimate and really artistic mode of effecting this purpose, and the one to which attention should now be turned.[1]

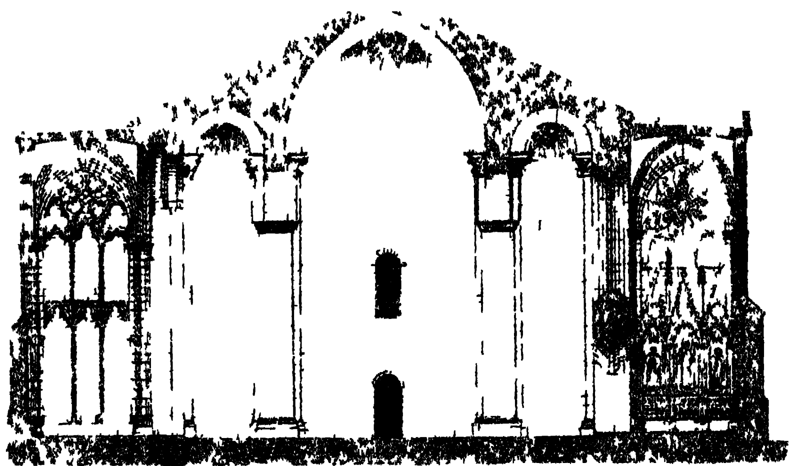
This early mode of employing the pointed arch is so little understood generally that, before leaving this branch of the subject, it may be well to quote one other example with a perfectly authentic date.

The Church of St. Nazaire at Carcassone was dedicated by Pope Urban II. in 1096. It was not then quite complete, but there seems no doubt but that the nave, as we now find it, was finished by the year 1100. As will be seen from the annexed section, the side-aisles and all

1 The Scotch and Irish Celts seem to have had a conception of this truth, and in both these countries we find some bold attempts at true stone roofs: the influence, however, of the Gothic races overpowered them, and the mixed roof became universal.

the openings are constructed with round arches, but the difficulty of vaulting the nave forced on the architects the introduction of the pointed arch. It is here constructed solid, with flat ribs over each pillar, and without any attempt to pierce it for the introduction of light, and as the west end is blocked up—fortified in fact—the result is gloomy enough.

This example is also interesting when looked at from another point of view. If we turn back to woodcuts Nos. 180 and 181, and compare them with this section, we shall be able to gauge exactly the changes which were introduced and the progress that was made during the 1000 years that elapsed between the erection of these two buildings. In the plan of the temple of Diana at Nîmes we have the same three-aisled arrangement as at Carcassonne. Their dimensions are not very dissimilar; the nave at Nîmes is 26 ft. wide, the aisles 7½ ft. in the clear. At Carcassonne this becomes 25 ft. and 10 ft. respectively. The aisles are in the early example separated from the nave by screen walls adorned with pillars which are mere ornament. In the later example the pillars have become the main support of the roof, the wall being omitted between them.



28[illegible]. Section of Church at Carcassonne, with the outer Aisles added in the 14th Century. No scale.

The roof of the nave in both instances is adorned with flat ribs, one over each pillar; but at Nîmes the rib is rather wider than the space between. At Carcassone the rib occupies only one-fourth of the width of the bay. One of their most striking differences is, that Nîmes displays all that megalithic grandeur for which the works of the Romans were so remarkable, while at Carcassone the masonry is little better than rubble. It need hardly be added that the temple displays an elegance of detail which charms the most fastidious taste, while the

decoration of the church is rude and fantastic, though no doubt picturesque and appropriate. The last remark must not, however, be understood as a reproach to Gothic art, for the choir of this very church, and the two outer arches shewn in the woodcut No. 285, were rebuilt in the year 1331, with an elegance of detail which, in a constructive sense, would shame the best classical examples. The nave is a tentative example of a rude age, when men were inventing, or trying to invent, a new style, and before they quite knew how to set about it. The builders of Carcassone had this temple at Nîmes standing, probably much more complete than it is now, within 120 miles of them, and they were attempting to copy it as best they could. It is probable, however, they had also other models besides this one, and certain that this was not the first attempt to reproduce them. The differences are considerable, but the similarities are so great that we ought rather to be astonished that ten centuries of experience and effort had not shewn more progress than we find.

Provence.

There are few chapters in the history of mediæval architecture which it would be more desirable to have fully and carefully written than that of the style of Provence from the retirement of the Romans to the accession of the Franks. This country, from various causes, retained more of its former civilization through the dark ages than any other, at least on this side of the Alps. Such a history, however, is to be desired more in an archæological than in an architectural point of view, for the Provençal churches, compared with the true Gothic, though numerous and elegant, are small, and most of them have undergone such alterations as to prevent us from judging correctly of their original effect.

Among the Provençal churches, one of the most remarkable is Notre Dame de Doms, the cathedral at Avignon (woodcut No. 286). Like all the others, its dimensions are small, as compared with those in the northern province, as it is only 200 ft. in length, and the nave about 30 ft. in width. The side aisles have been so altered and rebuilt, that it is difficult to say what their plan and dimensions originally may have been.

The most remarkable feature and the least altered is the porch, which is so purely Romanesque that it might almost be said to be copied from such examples as the arches on the bridge of Chamas (woodcut No. 212). It presents, however, all that attenuation of the horizontal features which is so characteristic of the Lower Empire, and cannot rank higher than the Carlovingian era; though it is not quite so easy to determine how much more modern it may be. The same ornaments are found in the interior, and being integral parts of the ornamentation of the pointed roof, have led to various theories to

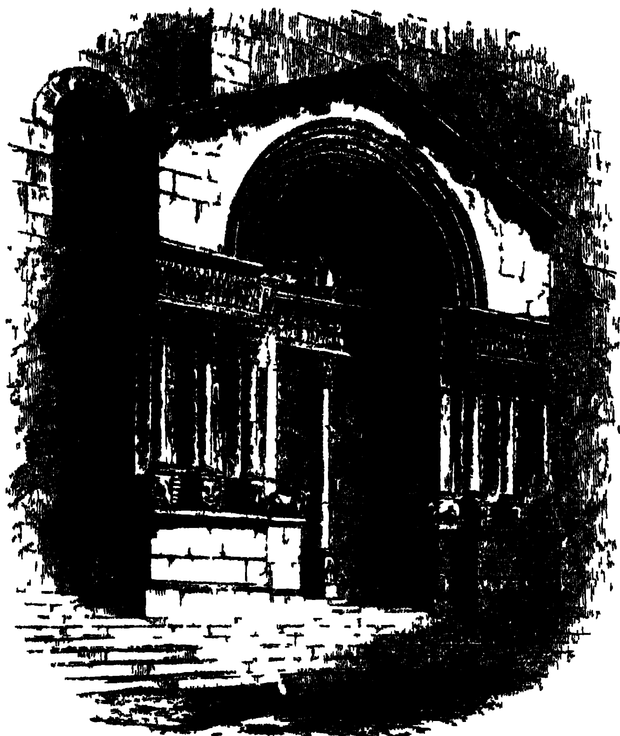


286. Porch of Notre Dame de Doms, Avignon. From Laborde's 'Monuments de la France.'

account for this copying of classical details after the period at which it was assumed that the pointed arch had been introduced. It has been sufficiently explained above, how early this was the case as a vaulting expedient in this quarter; and that difficulty being removed, we may safely ascribe the whole of the essential parts of this church to a period not long subsequent to the age of Charlemagne.

Next perhaps in importance to this, is the church of St. Trophime at Arles, the nave of which, with its pointed vault, probably belongs to the same age, though its porch (woodcut No. 287), instead of being the earliest part, as in the last instance, is here the most modern, having been erected in the 11th century, when the church to which it is attached acquired additional celebrity by the translation of the body of St. Trophime to a final resting-place within its walls. As it is, it forms a curious and interesting pendant to the one last quoted, showing how in the course of four centuries the style had passed from debased Roman to a purely native form, still retaining a strong tradition of its origin, but so used and so ornamented that, were we not able to trace back the steps one by one by which the porch at Avignon led to that of Arles, we might almost be inclined to doubt the succession.

The porches at Aix, Cuxa, Coustonges, Prades, Valcabre, Tarascon, and elsewhere in this province, form a series of singular interest, and



287. Porch of St. Trophime, Arles. From Chapuy, 'Moyen Age Monumental.'

of great beauty of detail mixed with all the rich exuberance of our own Norman doorways, and follow one another by such easy gradations that the relative age of each may easily be determined.

The culminating example is that at St. Gilles, near the mouths of the Rhone, which is by far the most elaborate church of its class, but so classical in many of its details, that it probably is somewhat earlier than this one at Arles, which it resembles in many respects, though far exceeding it in magnificence. It consists of three such porches placed side by side, and connected together by colonnades—if they may be so called—and sculpture of the richest class, forming altogether a frontal decoration unsurpassed, except in the northern churches of the 13th century. Such porches, however, as those of Rheims, Amiens, and Chartres, surpass even these in elaborate richness and in dimensions, though it may be questioned if they are really more beautiful in design.

There is another church of the Carlovingian era at Orange, and one at Nîmes, probably belonging to the 9th or 10th century; both however very much injured by alterations and repairs. In the now deserted city of Vaison there are two churches, so classical in their style, that

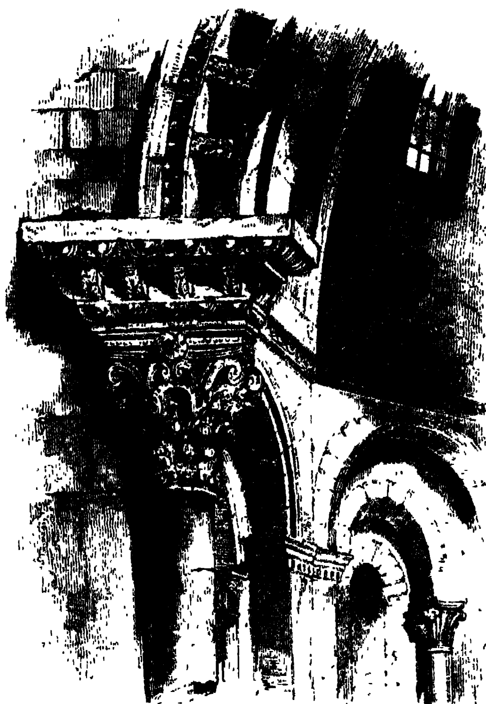
we are not surprised at M. Laborde, and the French antiquaries in general, classing them as remains of the classical period. In any other country on this side of the Alps such an inference would be inevitable; but here another code of criticism must be applied to them. The oldest, the chapel of St Quinide, belongs probably to the 9th or 10th century. It is small, but remarkably elegant and classical in the style of its architecture. The apse is the most singular as well as the most ancient part of the church, and is formed in a manner of which no other example is found anywhere else, so far as I know. Externally it is two sides of a square, internally a semicircle, at each angle of the exterior and in each face is a pilaster, fairly imitated from the Corinthian order, and supporting an entablature that might very well mislead a Northern antiquary into the error of supposing it was a Pagan temple.

The cathedral, though larger, is more Gothic both in plan and detail though not without some classical features, and is entirely free from the bold rudeness of style we are so accustomed to associate with the architecture of the 11th century, to which it belongs. Its system of vaulting has already been explained (woodcut No. 283), but neither of these buildings have yet met with the attention they so richly merit from those who are desirous of tracing the progress of art from the decline of the pure Roman to the rise of the true Gothic styles.



288. Apse of Church at Aix. From Taylor and Nodier, 'Voyages dans l'Ancienne France.'

Taking it altogether, perhaps the most elegant specimen of the style is the ruined—now, I fear, nearly destroyed—church of Alet, which, though belonging to the 11th century, was singularly classical in its details, and wonderfully elegant in every part of its design. Of this the apse, as having undergone no subsequent transformation, was by far the most interesting, though not the most beautiful portion. The upper part was adorned with dwarf Corinthian pilasters, surmounted by a cornice that would not discredit the buildings of Diocletian at Spalatro; the lower part by forms of more Mediæval character, but of scarcely less elegance. In the interior the triumphal arch, as it would be called in a Roman basilica, is adorned by two Corinthian pillars, designed with the bold freedom of the age, though retaining the classical forms in a most unexpected degree.

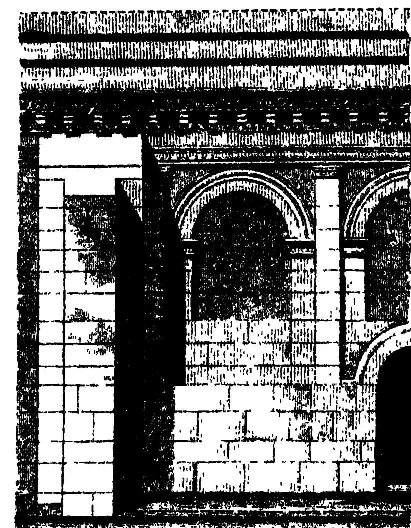


289. Internal Angle of Apse at Alet. From Taylor and Nodier.

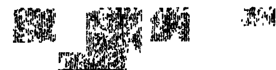
The rest of the church is as elegant as these parts, though far less classical, the necessities of vaulting and construction requiring a different mode of treatment, and a departure from conventional forms, which the architect does not seem to have considered himself at liberty to employ in the apse.

Another singularly elegant specimen of this style is the church of St. Paul au Trois Chateaux, near Avignon (woodcuts Nos. 290, 291). Its details are so elegant and so classical that it might almost be mistaken for a building of the Lower Empire anterior to Justinian's time. Its plan, however, and the details of its construction prove that it belongs to a much more modern date; Viollet le Duc would even bring it down as low as the 12th century. It hardly seems possible that it should be so modern as this; but the truth is, the whole history of the Romance style in this province has still to be written. It has not yet been examined with the care it deserves by any competent authority, and till it is we

must be content with the knowledge that, in the neighbourhood of the Bouches du Rhone, there exists a group of churches which, drawing their inspiration from the classical remains with which the country is studded, exhibit an elegance of design as exquisite as it is in strange contrast with the rude vigour—almost vulgarity—which characterized the works of the Normans in the opposite corner of the land at the same period.



290. Elevation of half one Bay of the Exterior of St. Paul aux Trois Chateaux.





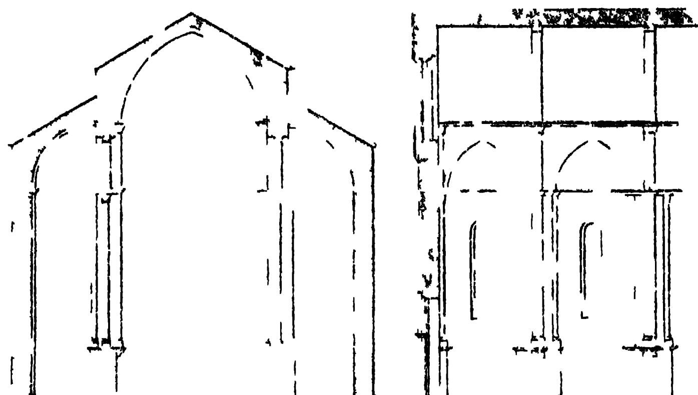


291. Half Bay of Interior of St. Paul aux Trois Chateaux. From the 'Archives des Monumens Historiques.'

Passing from the round-arched to the pointed modifications of this style, the church at Fontifroide, near Narbonne, shows it in its completeness, perhaps better than any other example. There not only the roof is pointed, but all the constructive openings have assumed the same forms. The windows and doorways, it is true, still retain their circular heads, and did retain them as long as the native style flourished—the pointed-headed opening being only introduced by the Franks under Simon de Montfort.

The section across the nave shows the form of the central vault, which the other section shows to be a plain tunnel-vault unbroken by any intersection throughout the whole length of the nave. The side-aisles are roofed with half vaults, forming abutments to the central arches —the advantage of this construction being, as before explained, that the tiles or paving-stones of the roof rest directly on the vault without the intervention of any carpentry. Internally also the building displays much elegant simplicity and constructive propriety. Its chief defect is the darkness of the vault from the absence of a clerestory, which, though tolerable in the bright sunshine of the South, could not be borne in the more gloomy North. It was

correct this, as we shall afterwards perceive, that in the North the roof of the aisles was first raised to the height of that of the central nave, light being admitted through a gallery. Next the upper roof of the aisles was cut away, with the exception of mere strips or ribs left as flying buttresses. Lastly, the central vault was cut up by intersections, so as to obtain space for windows to the very height of the ridge. It was this last expedient that necessitated the adoption of the pointed-headed window, which might never have been introduced but for the invention of painted glass, but this requiring larger openings, compelled the architects to bring these windows close up to the lines of the constructive vaulting, and so follow its forms. In the South, however, painted glass never was, at least in the age of which we are now speaking, a favourite mode of decoration, and the windows remained



212. Longitudinal and Cross Section of Fontfroid Church. From Taylor and Nodier.

so small as never to approach or interfere in any way with the lines of the vault, and they therefore retained their national and more beautiful circular-headed termination. The modes of introducing light are, however, undoubtedly the most defective part of the arrangements of the Provençal churches, and have given rise to its being called a "cavern-like Gothic,"[1] from the gloom of their interiors as compared with the glass walls of their Northern rivals. Still it by no means follows that this was an inherent characteristic of the style, which could not have been remedied by further experience; but it is probable that no ingenuity would ever have enabled this style to display these enormous surfaces of painted glass, the introduction of which was, if not the only, at least the principal motive of all those changes which took place in the Frankish provinces.

It would be tedious to attempt to describe the numerous churches of the 11th and 12th centuries which are found in every considerable

[1] Wood's 'Letters of an Architect,' vol. i. p. 163.

town in this province. some of them, however, such as Elne, St. Guillem le Désert, St. Martin de Landres, Viguogoul, Valmagne, Lodève, &c., deserve particular attention, as exemplifying this style, not only in its earlier forms, but after it had passed into a pointed style, though differing very considerably from that of the North. Among these there is no church more interesting than the old fortalice-like church of Maguelone, which, from its exposed situation, open to the attacks of Saracenic corsairs as well as Christian robbers, looks more like a baronial castle than a peaceful church. One of its doorways shows a curious admixture of classical, Saracenic, and Gothic taste, which could only be found here, and as it bears a date (1178), it marks an epoch in the style to which it belongs.



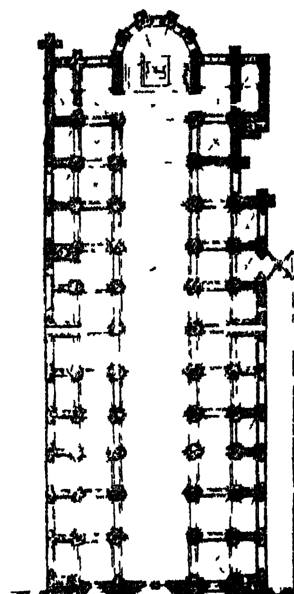
[illegible] Doorway in Church at Maguelone. From Renouvier, Monuments de Bas Languedoc.

Had it been completed, the church of St Gilles would perhaps have been the most splendid of the province. Its portal has already been spoken of, and is certainly without a rival, and the lower church, which belongs to the 11th century, is worthy of its magnificence. It was, however, either never finished, or was subsequently ruined along with the upper church, which was commenced in the year 1116 by Raymond IV., Count of St. Gilles. This too was probably never completed, or, if it was, it was ruined in the wars with the Huguenots. Even in its present state, and though wanting the richness of the earlier examples, it perhaps surpasses them all in the excellence of its masonry, and the architectural propriety of all its parts.

Besides these, there is an important church at Valence of the 11th century, which seems to be an almost expiring effort of the "cavern-like" style. In other respects it resembles the Northern styles so much as almost to remove it from the Provençal class. This is even more true of the cathedral at Vienne, which is nevertheless the largest and finest of the churches of Provence, but which approaches, both in style and locality, very closely to the Burgundian churches.

Its plan is extremely simple, having no transept and no aisle trending round the apse, as in the case with most of the Northern churches. It consists of 3 aisles, the central one 35 ft. wide between the piers, the

others 14 ft. The buttresses are internal, as was usual in the South, forming chapels, and making up the whole width externally to 113 ft. by a length over all of 300, so that it covers somewhere about 30,000 sq. ft. This is only half the dimensions of some of the great Northern cathedrals, but the absence of transepts, and its generally judicious proportions, make this church look much larger than it really is.



291 Cathedral Vienne From Wiebeking Scale 100 ft to 1 in

The west front and the 3 western bays are of the 16th century, the next 7 are of an early style of pointed architecture, with semi Roman pilasters, which will be described in speaking of Burgundian architecture, and which belong probably to the 11th or beginning of the 12th century. The apse is ascribed to the year 952, but there are no drawings on which dependence can be placed sufficient to determine the date.

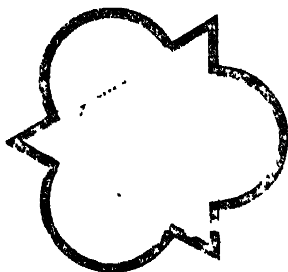
Besides this, there is another church, St. André le Bas at Vienne, belonging to the 11th century, whose tower is one of the most pleasing instances of this kind of composition in the province, and though evidently a lineal descendant of the Roman and Italian campaniles, displays an amount of design seldom met with beyond the Alps

Circular Churches

The round shape seems never to have been a favourite for sacred buildings in Provence, and consequently was never worked into the apses of the churches, nor became an important adjunct to them. One of the few examples found is a small baptistery attached to the cathedral at Aix, either very ancient or built with ancient materials, and now painfully modernised. At Riez there is a circular detached baptistery, usually, like the churches at Vaison, called a pagan temple, but evidently of Christian origin, though the pillars in the interior seem undoubtedly to have been borrowed from some more ancient and classical edifice. But the finest of its class is the church at Rieux, probably of the 11th century. Internally the vault is supported by 4 piers and 3 pillars, producing an irregularity far from pleasing, and without any apparent motive.

At Planes is another church the plan of which deserves to be quoted, if not for its merit, at least for its singularity: it is a triangle with an

apse attached to each side, and supporting a circular part terminating in a plain roof. As a constructive puzzle it is curious, but it is doubtful how far any legitimate use could be made of such a *capriccio*.



Plan of Church at Planes. From Taylor and Nodier.

There is, so far as I know, only one triapsal church, that of St. Croix at Mont Majour near Arles. Built as a sepulchral chapel, it is a singularly gloomy but appropriate erection; but it is too tall and too bare to rank high as a building even for such a purpose.

Provence is far from being rich in towers, which never seem there to have been favourite forms of architectural display. That of St. André le Bas at Vienne has already been alluded to, but this at Puissalicon (woodcut No. 296) near Béziers is even more typical of the style, and standing as it now does in solitary grandeur among the ruins of the church once attached to it, has a dignity seldom possessed by such monuments In style it resembles the towers of Italy more than any found farther North, but it is not without peculiarities that point to a different mode of elaborating this peculiar feature from anything found elsewhere. As a design its principal defect seems to be a want of lightness in the upper storey. The single circular opening there is a mistake in a building gradually growing lighter towards its summit.



296. Tower at Puissalicon. From Renouvier.

These towers were very seldom, if ever, attached symmetrically to the churches. When height was made an object, it was more frequently attained by carrying up the dome at the intersection of the choir with the nave. At Arles this is done by a heavy square tower, gradually diminishing, but still massive to the top; but in most instances the square becomes an octagon, and this again passes into a circle, which terminates the composition. One of the best specimens of this class of domes, if they may be so called, is the church

of Cruas (woodcut No. 297), where these parts are pleasingly subordinated, and form, with the apses on which they rest, a very beautiful composition. The defect is the tiled roofs or offsets at the junction of the various storeys, which give an appearance of weakness, as if the upper parts could slide, like the joints of a telescope, one into the



297. Church at Cruas. From Taylor and Nodier.

other. This could easily be avoided, and probably was so in the original design. If this were done, we have here the principle of a more pleasing crowning member at an intersection than was afterwards used in pointed architecture, and capable of being applied to domes of any extent.

Cloisters.

Nearly all, and certainly all the more important churches of which we have been speaking, were collegiate, and in such establishments the cloister forms as important a part as the church itself, and frequently the more beautiful object of the two. In our own cold wet climate the cloisters lose much of their appropriateness, still they always were used and always with a pleasing effect, but in the warm sunny South their charm is increased tenfold. The artists seem to have felt this, and to have devoted a large share of their attention to these objects, creating in fact a new style of architecture for this special purpose.

With us the arcades of a cloister are generally, if not always, a

range of unglazed windows, presenting the same features as those of the church, which, though beautiful when filled with glass, are somewhat out of place without that indispensable adjunct. In the South the cloister is never a window, or anything in the least approaching to it in design, but a range of small and elegant pillars, sometimes single, sometimes coupled generally alternately so, and supporting arches of light and elegant design, all the features being of a character suited to the place where they are used, and to that only.

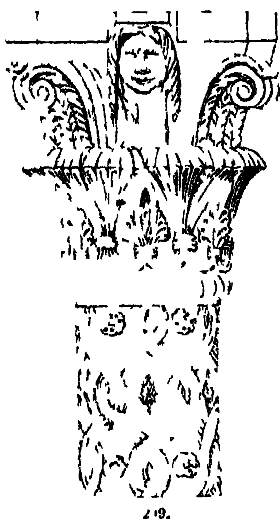
The cloister at Arles has long occupied the attention of travellers and artists, and perhaps no building, or part of one, in this style has been so often drawn or so much admired. Two sides of it are of the same age and in the same style as the porch (woodcut No. 287), and equally beautiful. The other two are somewhat later, the columns supporting pointed instead of round arches. At Aix there is another, similar to that at Arles, and fragments of such colonnades are found in many places. That of Fontifroide (woodcut No. 298) is one of the most complete and perfect, and some of its capitals are treated with a freedom and boldness and at the same time with an elegance, not often rivalled anywhere. They even excel—for the purpose at least — the German capitals of the same age.



298. Cloister at Fontifroide. From Taylor and Nodier.

Those at Elne are more curious than those of any other cloister in France, so far as I know—some of them showing so distinct an imitation of Egyptian work as instantly to strike any one at all familiar with that style. Yet they are treated with a lightness and freedom so wholly mediæval as to show that it is possible to copy the spirit without a servile adherence to the form. Here, as in all the examples, every capital is different

– the artists revelling in freedom from restraint, and sparing neither time nor pains. We find in these examples a delicacy of handling and refinement of feeling far more characteristic of the South than of the ruder North, and must admit that their architects have in these cloisters produced objects with which we have nothing of the kind in England to compete.





249.

Capital at [illegible] From Taylor and Nodier.

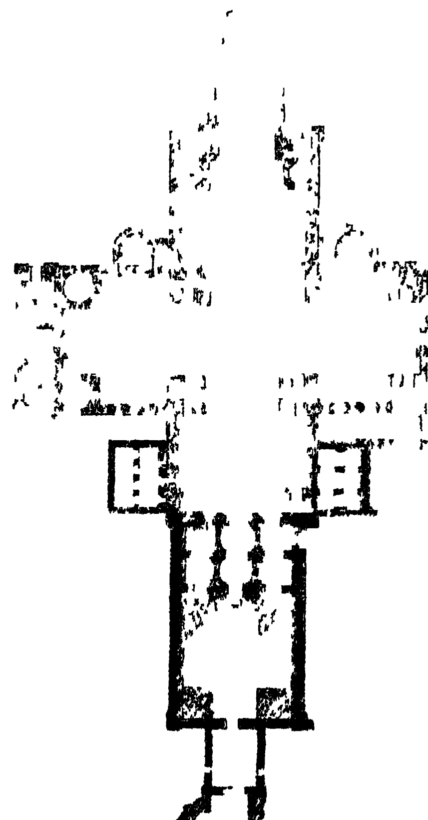
CHAPTER II.

AQUITANIA.

CONTENTS.

Churches at Périgueux, Souillac, Angoulême, Alby, Toulouse, Conques — Towers — Tombs.

THE moment you pass the hills forming the watershed between the rivers flowing to the Mediterranean and those which debouch into the Bay of Biscay, you become aware of having left the style we have just been describing to enter upon a new architectural province. This province possesses two distinct and separate styles, very unlike one another both in character and detail. The first of these is a round-arched tunnel-vaulted Gothic style, more remarkable for the grandeur of its conceptions than for the success with which those conceptions are carried out, or for beauty of detail. The second is a pointed-arched, dome-roofed style peculiar to the province. The existence of this peculiar form of art in this part of France, where it is alone found, is quite sufficient to establish the pre-existence in this province of a race differing from that inhabiting the rest of the country, though it is not at present easy to determine their origin. From the prevalence of Basque terminations to the names of the principal towns in the district, and from the fragments of that people still existing on its southern frontier, it would appear most likely that they were the influencing



61. Plan of St. Front, Périgueux. From F. de Verneilh, 'Architecture Byzantine en France.' Scale 100 ft. to 1 in.

race. If so, their love of domes would be almost sufficient to establish their claim to a Turanian origin, for though domes are found, no doubt, farther north, it is in a modified form. These phenomena are, however, sufficient to induce us to include for the present in the province of Aquitaine the doubtful districts of the Angoumois and Vendee, though it is possible that these provinces may eventually turn out to belong more properly to Anjou.

In describing them, it may be convenient to take the domical style first, as its history—with one or two exceptional examples in the neighbouring provinces—begins and ends here. It will, no doubt, be found beyond the Pyrenees so soon as it is looked for; but in a country whose architecture has been so imperfectly investigated as has been the case in Spain, fifty different styles might exist without our being cognizant of the fact.



View of St. Front, Perigueux. From Verneilh.

The principal and best preserved example of the domical style of Aquitania is the church of St. Front, Perigueux. As will be seen from the woodcut No. 301, its plan is that of a Greek cross, 182 ft. each way internally, exclusive of the apse, which is comparatively modern, and of the ante-church and porch extending 150 ft. further west, which are the remains of an older church now very much mutilated, and to which the domical church appears to have been added in the 11th century.

Both in plan and dimensions it will be observed that this church bears an extraordinary and striking resemblance to that of St. Mark's, Venice, illustrated further on. The latter church, however, has the angles so filled up as to reduce it to the more usual Greek form of a square, while its front and lateral porches are additions, of a magnificence to which the church of St. Front can lay no claim. The five

cupolas are of nearly the same size, and are similarly placed, in both churches; and the general similarity of arrangement points certainly to an identity of origin. Both too would seem to be of about the same age, as there is no reason to doubt the data on which M. Felix de Verneilh[1] arrives at the conclusion that the church we now see was erected in the very beginning of the 11th century. There is, however, one striking difference, that all the constructive arches in St. Front are pointed, while those of St. Mark's are round. The form too of the cupolas differs; and in St. Front the piers that support the domes, having been found too weak, have been cased to strengthen them, which gives them an awkward appearance, from which St. Mark's is free. The difference that would strike a traveller most is, that St. Mark's retains its frescos and decorations, while St. Front, like almost all the churches of its age, presents nothing now but naked bare walls, though there cannot be a doubt that it was originally painted. This indeed was the legitimate and appropriate mode of decoration of all the churches of this age, till it was in a great measure superseded by the invention of painted glass.

The cupolas are at the present day covered with a wooden roof, but their original appearance is represented with tolerable correctness in the woodcut No. 302, which, though not so graceful as Eastern domes usually are, are still a far more picturesque and permanent finishing for a roof than the wooden structures of the more Northern races. Its present internal appearance, from the causes above mentioned, is singularly bare and gloomy, and no doubt utterly unworthy of its pristine splendour.

The tower stands at the intersection between the old and new churches, and its lower part at least is so classical in its details, that it more probably belongs to the older Latin church than to the domical one. Its upper part seems to have been added, and its foundation strengthened, at the time the eastern part was built.

St. Front is perhaps the only specimen of a perfect Greek cross church with cupolas. That of Souillac is a good example of a modification of a form nearly similar, except that the cupola forming the eastern branch is here transferred to the western, making it thus a Latin instead of a Greek cross, which is certainly an improvement, as the principal space and magnificence is thus concentrated about the high altar, which is, or should be, the culminating point of effect. An opinion may be formed of its internal appearance, and indeed of all the churches of this style, from the view (woodcut No. 303), which in reality gives it much more the appearance of the interior of a mosque in Cairo than of a Christian church of the middle ages. The building is not large, being only 205 ft. in length internally, including the porch, and

[1] 'Journal Archéologique' de M. Didron, vol. xi. p. 88 et seq.

110 across the transepts. Its age is not accurately known, antiquaries having insisted on placing it in the 12th century on account of its pointed arches, whereas the probability rather seems to be that it belongs to the 11th century.



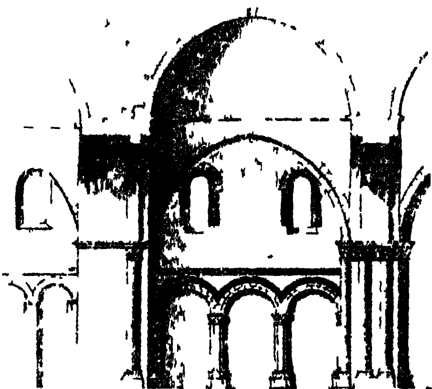
[illegible] Church [illegible]. From Taylor and Nodier.

The cathedral at Angoulême (woodcut No. 304) is another and still more extended example of this class having three domes in the nave, the first with the façade belonging certainly to the 11th, the rest to the 12th century. The form of these domes with the arrangement of the side walls will be understood from the woodcut No. 305. The method adopted in this church may be considered as typical of all this class, and, except in the mode of lighting the upper part, is by no means inferior in architectural effect to the intersecting vaults of after ages. The transepts here are shortened internally, so as only to give room for two small lateral chapels, but externally they are made very

imposing by the addition of two towers, one at the end of each. This was another means of solving a difficulty that everywhere met the Mediæval architects, of giving the greatest dignity to the most holy place. The proper and obvious mode of doing this was of course to raise a tower or dome at the intersection of the nave and transepts, but the difficulties of construction involved in this mode of proceeding were such that they seldom were enabled to carry it out. This can only be said, indeed, to have been fairly accomplished in England. At Angoulême, as will be observed in the plan, there is no passage round the altar, nor is the choir separated from the body of the church. In Italy, and indeed in Germany, this does not seem to have been considered of importance; but in France, as we shall presently see, it was regarded as the most indispensable part of the arrangement of the church, and to meet this exigency the Southern architects were afterwards obliged to invent a method of isolating the choir, by carrying a lofty stone railing or screen round it, wholly independent of any of the constructive parts of the church. This, there is little doubt, was a mistake, and in every respect a less beautiful arrangement than that adopted in the North; still it seems to have been the only means of meeting the difficulty in the absence of aisles, and in some instances the richness with which the screen was ornamented, and the unbroken succession of bassi-relievi and sculptural ornaments, make us forget that it is only a piece of church furniture, and not an integral part of the design of the building.



404. Plan of Cathedral at Angoulême. From Verneilh. Scale 100 ft. to 1 in.

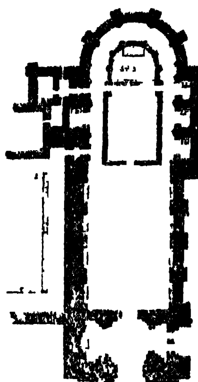


405. One Bay of Nave, Angoulême. From Verneilh. No scale.

One of the earliest examples of this arrangement which has been preserved is in the church at Moissac, remarkable for its strange mythical sculpture and rude pointed architecture, both belonging to the

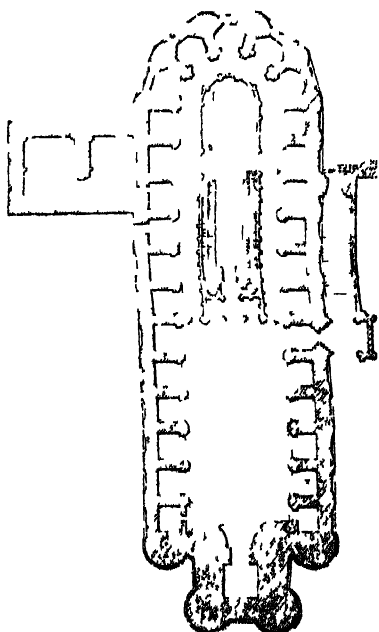
11th century, and as unlike anything to be found in any other part of France as can well be conceived.

At a latter age we find in the cathedral at Alby the same system carried to its acmé, and still adhered to in all essential parts in spite of the influence and predominance of the pure Gothic styles, which had then so generally superseded it. The foundation of the church was laid only in the year 1282, and it was not so far completed as to admit of its dedication till 1476. Its choir and fresco decorations were added by the celebrated Louis d'Amboise, who completed the whole in 1512. As will be seen from the plan (woodcut No. 307), the church is one immense unbroken vaulted hall, 55 ft. in width by 262 in length; or adding the chapels, the internal width is 82 ft., and the total length upwards of 300 ft.



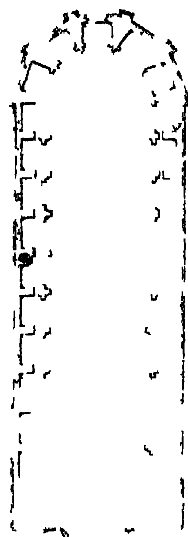
306. Plan of Church at Moissac. From Taylor and Nodier. Scale 100 ft. to 1 in.

As will be observed, the whole of the buttresses are internal, as is very generally the case in the South, and where painted glass is not used, and fresco painting is the principal mode of decoration, such a system has many advantages. The outer walls are scarcely ever seen, and by this arrangement great internal extent and an appearance of gigantic strength is imparted, while the whole space covered by the building is available for internal use. But where painted glass is the principal mode of decoration, as was the case to the north of the Loire, such a system was evidently inadmissible. Then the walls were internally kept as flat as possible, so as to allow the windows to be seen in every direction, and all the mechanical expedients were placed on the outside. Admirably as the Northern architects managed all this, I cannot help thinking, if we leave the painted glass out of the question, that the Southern architects had hit on the more artistic arrangement of the two; and where, as at Alby, the lower parts of the recesses between the internal

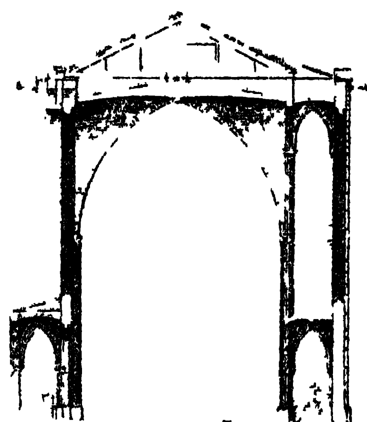


307. Plan of Cathedral at Alby. From Chapuy, 'Cathédrales Françaises.' Scale 100 ft. to 1 in.

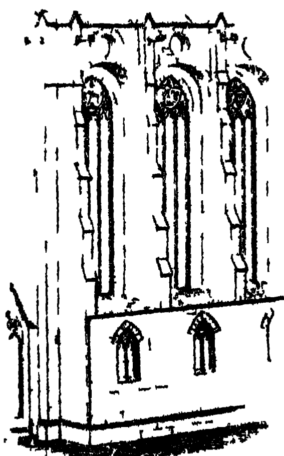
buttresses were occupied by deep windowless chapels, and the upper lights were almost wholly concealed, the result was an extraordinary appearance of repose and mysterious gloom. This character, added to its simplicity and the vastness of its vault, render Alby one of the most impressive churches in France, and a most instructive study to the philosophical inquirer into the principles of effect, as being a Gothic church built on principles not only dissimilar from, but almost diametrically opposed to those which we have been usually accustomed to consider as indispensable and as inherent requisites of the style.



The church of the Cordeliers at Toulouse is another remarkable example of this class, and exhibits its peculiarities in even a clearer light than that at Alby. Externally its dimensions in plan are 273 ft. by 87. Those of King's College Chapel at Cambridge, which is the building we possess most resembling it in plan, are 310 ft. by 84. But the nave of that chapel is only 41 ft. [illegible] inches clear between the piers, while in the church of Cordeliers it is [illegible] ft., and except the thickness of the outer wall about [illegible] ft., the whole of the floor space of the plan is utilized in the interior. In so far as internal effect is concerned this is no doubt judicious, but as may be seen from the view (woodcut No. 310) the absence of any definition of the line of buttresses externally produces a flatness and want of accentuation in the lower part that is highly objectionable. As will be observed from the section the whole



309. Section of Church of Cordeliers at Toulouse. [illegible] From King's Study Book.



310. View of Angle of Church of Cordeliers at Toulouse. From King.

of the width of the buttresses is included in the interior on the one side. On the other it is excluded above the roof of the aisle, but a gallery (woodcuts Nos. 309 and 310) joins the buttress at the top, giving the effect of a cornice and a gallery above. The church is of brick, and all the peculiarities of the style are here found exaggerated; but there are few churches on the Continent which contain so many valuable suggestions for a Protestant place of worship, and no features that could not easily be improved by judicious handling. It was built in a country where Protestant feeling existed before the Reformation, and where consequently architects studied more how they could accommodate congregations than provide show places for priests.

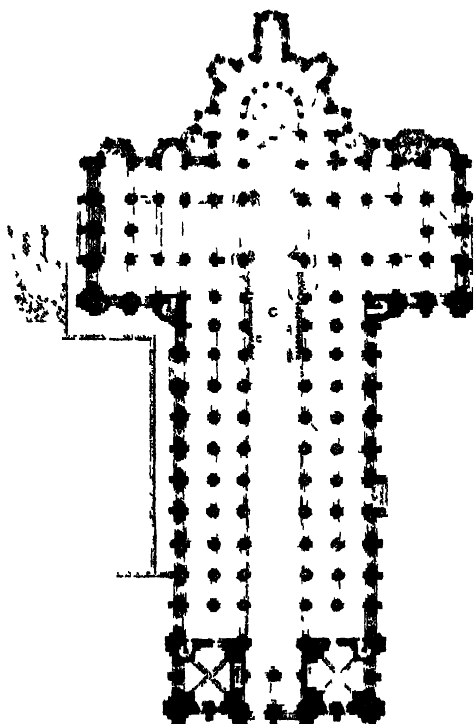
Besides those which are built wholly according to this plan, there are a great number of churches in this province which show the influence of its design in more respects than one, though, having been rebuilt in a subsequent age, many of the original features are necessarily lost. The cathedral at Bordeaux is a remarkable example of this, its western portion being a vast nave without aisles, 60 ft. wide internally, and nearly 200 ft. in length. Its foundations show that, like that at Angoulême, it was originally roofed by three great domes; but being rebuilt in the 13th century, it is now covered by an intersecting vault of that age, with two storeys of windows, and an immense array of flying buttresses to support its thrust, all which might have been dispensed with had the architects retained the original simpler and more beautiful form of roof. The cathedral of Toulouse shows the same peculiarity of a wide aisleless nave, leading to a choir of the usual construction adopted in this country in the 13th and 14th centuries: and many other examples might be quoted where the influence of the earlier style peers through the Northern Gothic which succeeded and nearly obliterated it.

Chevet Churches.

The Gothic churches of this province are neither so numerous nor so remarkable as those of the domical class we have just been describing; still there are several examples, far too important to be passed over, and which will serve besides in enabling us to introduce the new form of church building which became prevalent in France, to the exclusion of all others, and which characterised the French style in contradistinction to that of other countries.

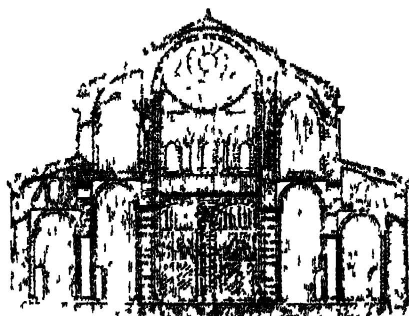
The typical example of the style in this province is the great church of St. Saturnin, or St. Sernin, at Toulouse, dedicated in the year 1096. The church is 375 ft. in length and 217 in width across the transept externally. It is five-aisled, the nave being 95 ft. in the interior, though the central aisle is only 20 ft. wide and is further contracted at the intersection by masses of masonry subsequently added to support the central tower. It has five apsidal and

four transeptal chapels, and may therefore be considered as possessing a complete chevet; but the church at Conques, in the same style and of almost similar date, illustrates even more perfectly the arrangement of which we are now speaking.



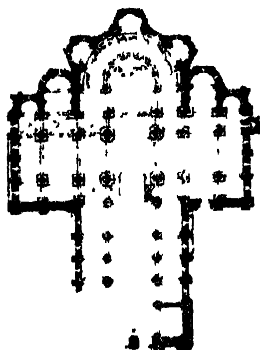
311. Church of St. Sernin, Toulouse. From the 'Archives des Monuments Historiques.' Scale 100 ft. to 1 in.

The nave of St. Sernin, as will be observed (woodcut No. 312), has double side aisles, above the inner one of which runs a grand gallery. The roof of this gallery—in section the quadrant of a circle—forms an abutment to the roof of the nave, which is a bold tunnel vault ornamented by transverse ribs only. So far the constructive arrangements are the same as in the transitional church of Fontfroide, quoted above (p. 416). Passing from the nave to the choir both at Toulouse and at Conques, we come upon a more extended and complicated arrangement than we have hitherto met with. It will be recollected that the Romanesque apse was a simple large niche, or semidome, so we shall find it in the Lombard and German styles when they come to be described, and generally even in the neighbouring Provençal style, and always—when unaltered—in the domical style last described. In the present instance it will be seen that a semicircular range of columns is substituted for the wall of the apse, an aisle bent round them, and beyond the aisle there are always three, five, or



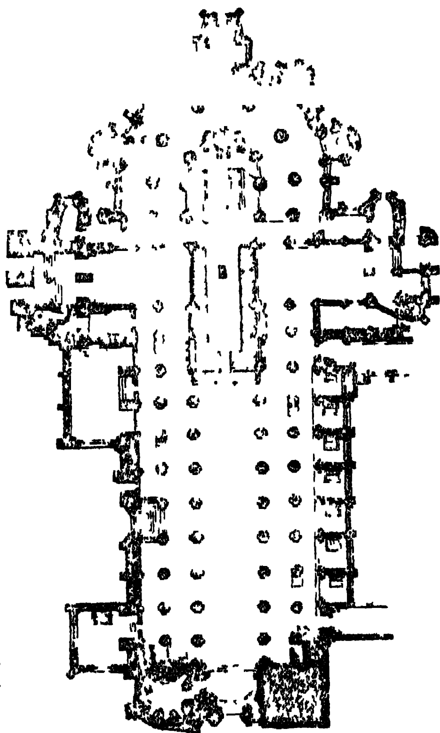
312. Section of the Church of St. Sernin, Toulouse. Scale 50 ft. to 1 in.

even seven chapels opening into it, which give it a complexity very different from the simple apse of the Roman basilicas and the other styles we have been describing, and at the same time a perspective and a play of light and shade which are unrivalled in any similar invention of the middle ages. The *apse*, properly speaking, is a solid semi-cylinder, surmounted by a semi-dome, but always solid below, though generally broken by windows above. The *chevet* on the contrary is an apse, always enclosed by an open screen of columns on the ground-floor, and opening into an aisle, which again always opens into three or more apsidal chapels. This arrangement is so peculiarly French, that it may properly be characterised by the above French word, a name once commonly applied to it, though latterly it has given way to the more classical, but certainly less suitable term of apse. Its origin too is worth inquiring into, and seems to be capable of easy explanation.



313. Plan of Church at Conques. From Taylor and Nodier. Scale 100 ft. to 1 in.

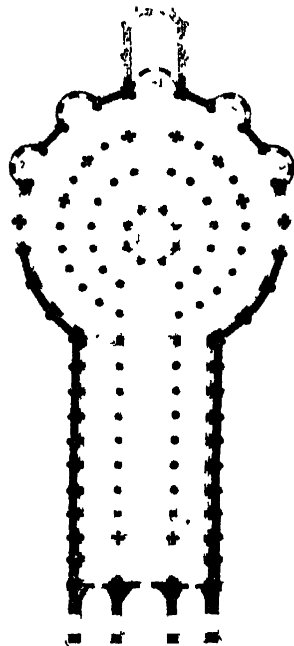
The uses which the various nations of Christendom made of the circular form of building left them by the Romans have been more than once adverted to in this work. The Italians used it almost always standing alone as a tomb-house or as a baptistery; the Germans converted it into a western apse, while sometimes, as at Bonn and elsewhere, they timidly added a porch or nave to it; but the far more frequent practice with the Germans, and also in England, was to build first the circular church for its own sake, as in Italy, then the clergy for their own accommodation added a choir, that they might pray apart from the people.



314. Plan of St. Martin at Tours. Scale 100 ft. to 1 in.

The French took a different course from all these. They built cir

cular churches like other nations, apparently, in early times at least, which were intended to stand alone; but in no instance do they appear to have applied them as naves, nor to have added choirs to them. On the contrary, the clergy always retained the circular building as the sacred depository of the tomb or relic, the Holy of Holies, and added a straight lined nave for the people. Of this class was evidently the church which Perpetuus built in the fifth century over the grave of St. Martin at Tours. There the shrine was surrounded by seventy-nine pillars arranged in a circular form; the nave was lined by forty-one—twenty on each side, with one in the centre of the west end as in Germany. When the church had to be rebuilt in the 11th century (1014 ?), the architect was evidently hampered by finding himself obliged to follow the outline of the old basilica of Perpetuus, and having to labour on the same foundation so as not to disturb either the shrine of the saint or any other place which had become sacred in this, which was the most celebrated and revered of the churches of Gaul. All this is made clear in the plan of the new church (woodcut No. 311). The arrangement of the circular part and the nave exactly accord with the description of the old church, only that the latter has been considerably enlarged according to the fashion of the day. But the juxta-position of the two shows how nearly the chevet arrangement was completed at that time.

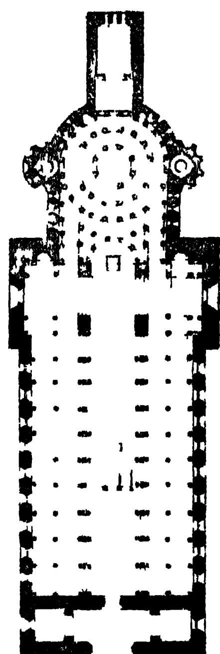


31[illegible]. Church of Charroux. Scale 100 ft. to 1 in.

Another church, that of Charroux on the Loire looks as though it had been built in direct imitation of the church of Perpetuus. The round church here retains its preeminence over the nave, as was the case in the older examples, and thus forms an intermediate link between the old church of St. Martin, which we know only by description, and the more modern one, of which a plan is given (woodcut No. 314).

St Benigne Dijon, is another transitional example which may serve to render this arrangement still more clear. It was erected in the first year of the 11th century, and was pulled down only at the Revolution; but before that catastrophe it had been carefully measured and described in Dom Plancher's 'History of Burgundy.' As seen by him, the foundations only of the nave were of the original structure, for in the year 1271 one of its towers fell, and so damaged it that the whole of that part of the church was then rebuilt in the perfect pointed style of the

day. Without entering too much into detail, it will suffice to state that the part shaded dark in the woodcut (No. 316) is taken literally from Dom Plancher's plan, regarding which there can be no doubt; and the contemporary descriptions are so full that very little uncertainty can exist regarding the dimensions and general disposition of the nave.



316. St. Benigne, Dijon. (From Dom Plancher's Hist. de Bourgogne.) Scale 100 ft. to 1 in.

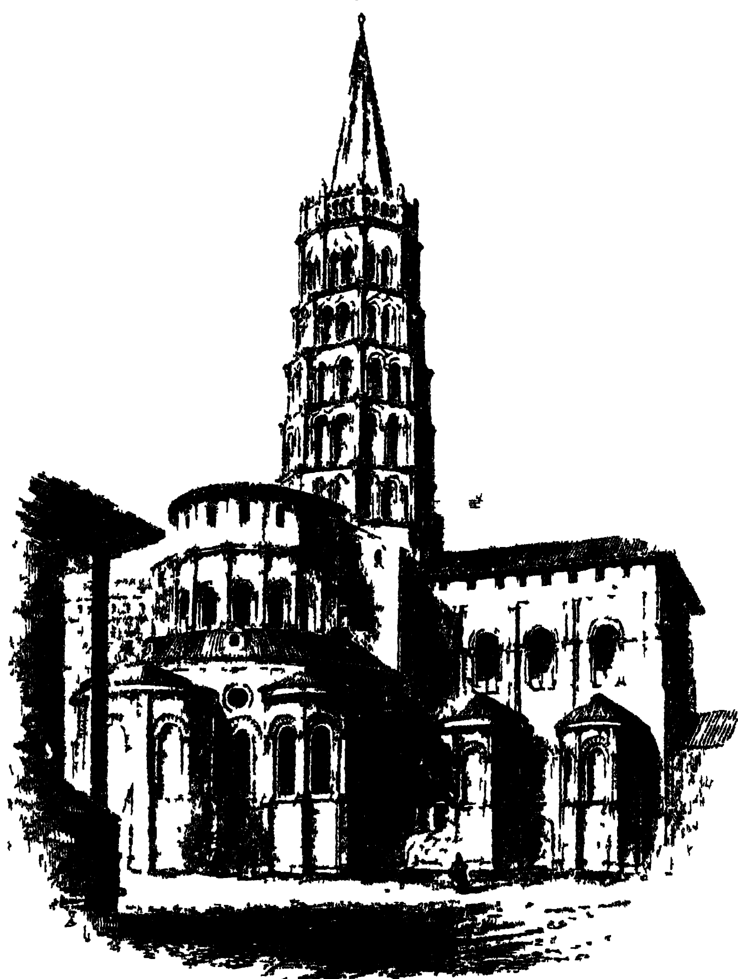
The bodies of the confessors SS. Urban and Gregory, were, it appears, originally buried in the church of St. John the Baptist, which seems to have been the name most properly applied to this circular building; they were afterwards transferred to the crypt below the high altar in the rectangular part of the church. Above the lower storey, which retained its name as a baptistery and burial-place, was the upper church, which was dedicated to the Virgin Mary; above that was the church of the Holy Trinity; and the top of the round towers on one side the altar of St. Michael, on the other probably that of Gabriel.

The little church of Neuvy St. Sépulchre, near Bourges, which was erected between the years 1042 and 1046, presents precisely the same arrangements as the church of Charroux, though on a smaller scale, there being only one ring of ten pillars in the centre. The ancient nave having been destroyed, was replaced by a more extended one in the 12th century, but the old arrangement can easily be traced.

In all these round churches—and they seem to have been very common in France before the 12th century—the circular part was the most important; but they have most of them been rebuilt; and where this has been the case, even when the outline of the circular form was retained, the lines of the nave were made tangent to the circle, and thus became part of one design. All these arrangements were perfect before the church of Conques (woodcut No. 313) was erected. There the architect, not being hampered by any previous building, was allowed free scope for his design. The plan so produced was never lost sight of by the French, but was developed into a vast variety of beautiful forms, which we shall shortly have to examine.

When once this transformation of the round church into the chevet termination of a basilica was effected, the French adhered to it with singular constancy. I am not aware of their ever having built a circular church afterwards which was intended to stand alone, and there are very few instances of basilicas of any importance without

this form of apse. Some, it is true, have been rebuilt on old foundations, with square eastern ends, but this is rare and exceptional, the chevet being the true and typical termination.



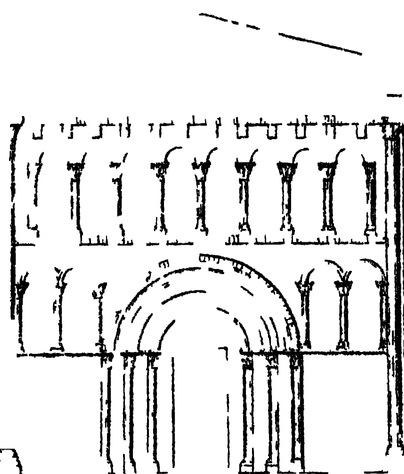
St Sernin, Toulouse. From Taylor and Nodier.

The church at Conques and that of Toulouse both show it fully and beautifully developed, though externally the chapels hardly fit pleasingly into the general design, and look more as though their addition were an after-thought. This, however, was soon afterwards remedied, and the transformation made complete.

The solidity with which these churches were built, and the general narrowness of their proportions as compared with the domical churches of the same time and district, enabled the architects occasionally to

attempt some splendid erection on the intersection of the nave and transepts which is the spot where height should always be aimed at The dome at Cruas in the Provençal district has already been described (woodcut No 297) The church at Conques has one as important though dissimilar but the finest is that of St Sernin at Toulouse (woodcut No 317) which rivals the design of our spires at Salisbury, Norwich, and elsewhere but its height being only 230 ft from the ground, it cannot be compared with them in that respect The 3 lower storeys only are of the age of the church, the 2 upper were added long afterwards but were adapted with remarkably good taste Though differing in design and detail their general form and outline is such as to accord most happily with the older structure on which they are placed there is nevertheless a sameness of design in placing so many similar storeys one over the other merely diminishing in size which is not altogether pleasing The general effect however is good and for a central object it is if not the finest certainly one of the very best which France possesses

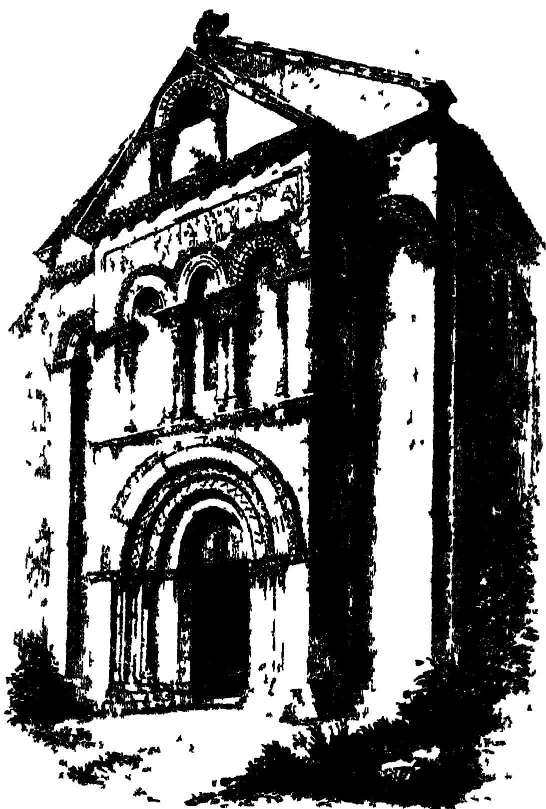
As in all French styles the western facades of the Southern churches are the parts on which the architects lavished their ornaments with the most unsparing hand Generally they are flat and most of them now terminate squarely with a flat line of cornice of slight projection Beneath this there is generally a range of arches filled with sculpture or intended to be so—the central one and that only being used as a window beneath this is the great portal on which more ornament is bestowed than on any other feature of the building Some of these gateways in this province as in Provence, are wondrous examples of patient labour, as well as models of beauty They possess more than the richness of our own contemporary Norman portals with a degree of refinement and delicacy which our forefathers did not attain till a much later age Some of these church portals in Aquitaine are comparatively simple but even they make up for the want of sculpture by the propriety of their design and the elegance of their composition



Aillas.

The church at Aillas presents a fair specimen, on a small scale, of the class of design which is peculiar to the façades of Aquitania, though it is doubtful if the original termination of the gable has not been lost

and replaced by the one shown in the drawing. The façade of Angoulême is designed on the same plan, though it is much richer. Those of Civray, Parthenay, and many others, show the same characteristics. They appear to have been designed, not to express the form and construction of the interior, but like an Egyptian propylon as a vehicle for a most extensive series of sculptures exhibiting the whole Bible history. Sometimes, however, the design is more strictly architectural, as in the façade of the church at Loupiac, where



[illegible]



St. Eloi, Espalion. From Taylor and Nodier.

sculpture is made wholly subordinate, and the architectural members are so grouped as to form a pleasing and effective design, not unlike some instances found farther north and in our own country.

The varieties of these, however, are so endless that it would be in vain to attempt either to particularize or to describe them. Many of these arrangements are unusual, though almost always pleasing, as in the church at Espalion (woodcut No. 320), where the belfry is erected as a single wall over the chancel-arch, and groups well with the apsidal termination, though as in almost every instance in this country, the western façade is wanting in sufficient feature and character to balance it.



Tomb at St. Pierre, Toulouse. From Taylor et Nodier.

Generally speaking, the cloisters and other ecclesiastical adjuncts are so similar to those of Provence, as given in the last chapter, that a separate description of them is not needed here. They are all of the columnar style, supporting small arches on elegant capitals of the most varied and elaborate designs, evincing that delicate feeling so prevalent in the south, which prevented any approach to that barbarism so common farther north whenever the architects attempted anything beyond the common range of decoration.

The same feeling pervades the tombs, monuments, and domestic architecture of this part of France, making them all far more worthy of study in every minute detail than has yet been attempted. The woodcut (No. 321) represents one small example of a tomb built into a wall behind the church of St. Pierre at Toulouse. It is one of those graceful little bits of architecture which meet one at every turn in the pleasant South, where the people have an innate feeling for art which displays itself in the smallest as well as in the most important works.

CHAPTER III.

ANJOU.

CONTENTS.

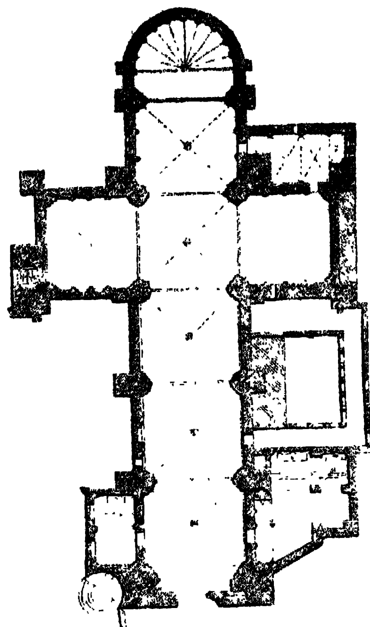
Cathedral at Angers — Church at Fontevrault — Poitiers — Spires.

THE architectural province of Anjou cannot perhaps be so distinctly defined as the two already described. On the north indeed it is separated by the clearest line both from Normandy and from the Frankish province. But in the south, as before remarked, it is not easy to say, in the present state of our information, what works belong to Aquitaine and what to Anjou. Not that there is any want of sufficient marks to distinguish between the *styles* themselves, but a large portion of *examples* appear to belong to a sort of debateable ground between the two. This, however, is true only of the buildings on the borders of the province. The two capitals of Angers and Poitiers are full of examples peculiar to them alone, and as a rule the same remark applies to all the principal churches of the province.

The age of the greatest splendour of this province is from the accession of Foulques Nerra in the year 989 to the death of Henry II. of England, 1190. During these two centuries its prosperity and independent power rose to a height which it subsequently neither maintained nor ever regained. Prior to this period the buildings found scattered here and there are few and insignificant, but during its continuance every town was enriched by some noble effort of the piety and architectural taste peculiar to the age. After its conclusion the completion of works previously commenced was all that was attempted. The rising power of the northern provinces, and of the English, seems to have given a check to the prosperity of Anjou, which it never thoroughly recovered; for when it did to a certain extent again become prosperous and wealthy, it was under the influence and dominion of the great central Frankish power which ultimately absorbed into itself all the separate nationalities of France, and obliterated those provincial distinctions which are so strikingly prominent in the earlier part of her history.

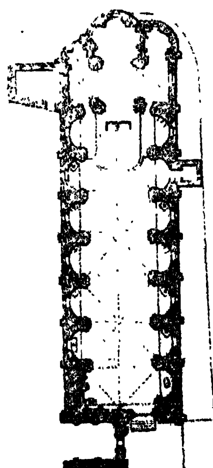
The plan of St. Maurice (woodcut No. 322), the cathedral of Angers, may be considered as a typical example of the Angiovine style, and will serve to explain in what it differs from the northern and in what it resembles the southern styles. On comparing it with the plan of Souillac,

and more especially with that of the cathedral at Angoulême, it will be seen how nearly it resembles them—the great difference being that, instead of cupolas over each square compartment, it has the intersecting vault of the northern styles. Its buttresses too are external, but less in projection than might be generally considered necessary to support a vault 52 ft. in span, they moreover show a tendency towards a northern style of construction; but the absence of free standing pillars or of aisles, and the general arrangement of the whole building, are rather southern peculiarities. Externally the façade has been successively piled up at various times from the 12th century, when the body of the church was commenced and nearly finished, to the 16th, when it was completed in the style of the Renaissance.



322. Cathedral at Angers. From Faultrier, 'Angers et ses Monuments.'

Another church in the same city, of equal interest, though not so large or important, is that of the Trinité. It consists of one nave without transepts, 52 ft. wide, measuring into the recesses, though it is only 32 ft. wide between the piers. It is roofed with an intersecting vault in eight compartments, of somewhat northern pattern, but with a strong tendency towards the domical forms of the southern style. It possesses, moreover, a peculiarity rather frequently attempted, viz., that of trying to attain a greater appearance of length by lowering the vaults from the entrance towards the altar. Thus at the entrance the building is 80 ft. in height, but it gradually sinks to 65 at the eastern end. This contrivance is a mere trick, and, like all such in architecture, is a failure.



323. St. Trinité, Angers. From Fanltrier. Scale 100 ft. to 1 in.

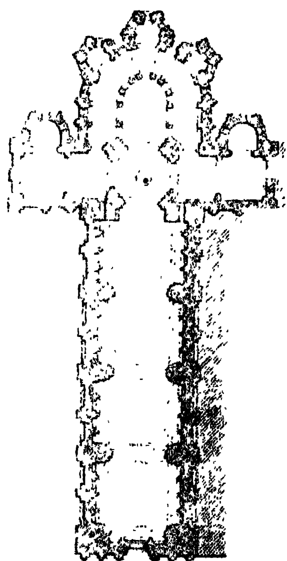
The details of this church are rich and good throughout, and

altogether the effect of the 7 recesses on each side is pleasing and satisfactory. Indeed it may be considered as the typical and best example of that class of churches, of which a later specimen was the cathedral at Alby, described in the last chapter, and which are so beautiful as to go far to shake our absolute faith in the dogma that aisles are indispensably necessary to the proper effect of a Gothic church.



324 View of the Interior of Loches. From a Sketch by the Author.

Even more interesting than either of these, in an archæological point of view, is the little castle chapel at Loches, commenced by Geoffrey Grise Gonelle, Count of Anjou, in the year 962, and continued by his son, Foulques Nerra, to whom the nave must be ascribed; while the western tower is probably the only part now remaining of the older church. The eastern portion was rebuilt in the 12th century by Thomas Pactius, the prior, and completed in 1180—the latter part being in the well known Norman style of that age. An interesting point in this church is that the Norman round-arch style is built over and upon the pointed arches of the nave, which are at least a century older, having been erected between the years 987 and 1040. It will be seen from the view given of this chapel that the pointed style here used has nothing in common with the pointed architecture of the north of France, but is that of the south, such as we have seen in the churches of Perigeux and Souillac. It is used here, as there, to support domes. These however, in this instance, instead of being circular, are octagonal, and rise externally in octagonal straight-lined cones of stone-work, giving a very peculiar but interesting and elegant outline to the building. They also point out a method by which roofs at least as high as those which afterwards prevailed could have been obtained in stone if this mode of vaulting had been persevered



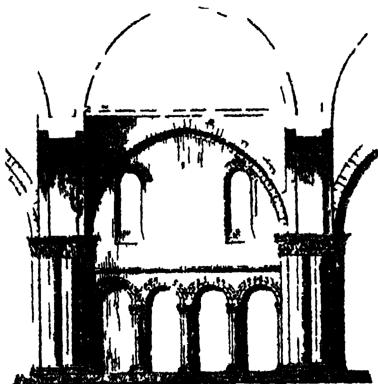
Plan of Church at Fontevrault. From Verneilh. Scale 100 ft. to 1 in.

in The church of St Sergius at Angers has pointed arches, certainly of an early date, but whether so old as this is not quite certain.

It has already been suggested that all circular churches were originally sepulchral or intended to be so There can also be little doubt but that the halves of round churches, which, as explained above were adopted as the chevet termination of French basilicas were also intended either to symbolize a tomb house or relic shrine or actually to serve as the sepulchres of distinguished personages. This certainly appears to have been the case in the earlier French examples, and among these one of the most splendid in this province indeed almost the only one of any real importance, is that of Fontevrault where repose, or rather reposed, the remains of two of our Plantagenet kings Henry II and Richard I, with others of their family As will be seen from the woodcut (No 326), it is a mausoleum worthy of them, and a pleasing example of the style of the age, and though certainly not so peculiarly Angevine as the aposidal churches of Angers and Poitiers, has still distinguishing characteristics which are not found in any other province of France The nave is surmounted by four domes, as is usual in this and the more southern provinces, and it is only in having an aisle trending round the apse that it differs from the ordinary churches It may be seen from the plan how awkwardly this is done, and how ill its narrow dimensions agree with the spaciousness of the nave



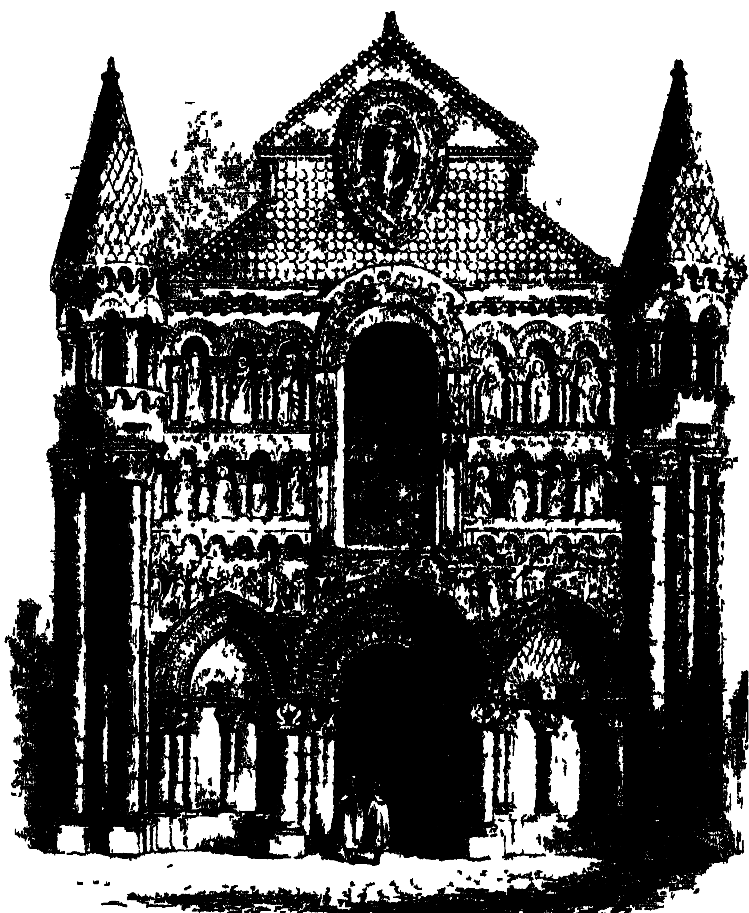
326 Apse of the Church at Fontevrault From Verneilh



327 Elevation of one of the Bays of the Nave at Fontevrault From Verneilh

Woodcut No. 327 demonstrates how similar the domes of its nave are to those of Angoulême, Souillac, and those of the south—this domical arrangement being in fact as characteristic of this age and locality as the intersecting vault afterwards became of the northern provinces

If the apse or chevet of this church is not so strictly Angiovine as other examples, the façade of the church of Notre Dame de Poitiers (shown in woodcut No. 328) is not open to the same remark, being strictly local in all its parts. Originally the one window it possessed was circular; but in the 15th century, as may be seen from the mouldings then introduced, it was cut down to its present form, no doubt to make more room for painted glass which at that age had superseded all other



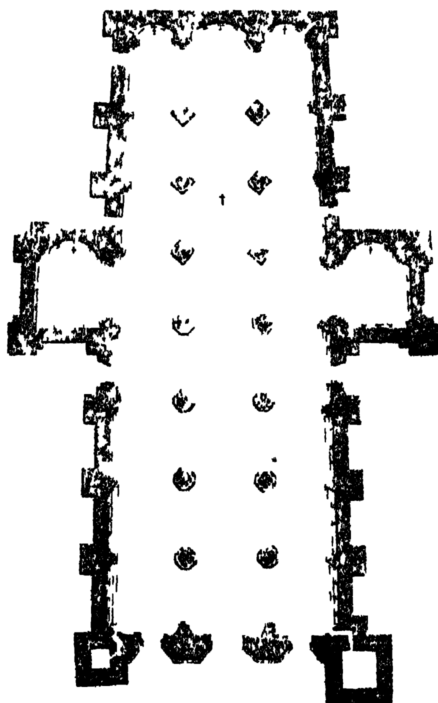
Façade of Church of Notre Dame at Poitiers. From Chapuy, 'Moyen Age Monumental.'

modes of decoration; whereas in the 12th century, to which the church belongs, external sculpture and internal mural paintings were the prevailing modes of architectural expression. It will be observed from the above woodcut that sculpture is used in a profusion of which no example belonging to a later age exists, and though we cannot help admiring the larger proportions and broader masses of subsequent

builders, still there is a richness and a graphic power in the exuberant sculpture of the earlier façades which we miss in after ages, and of which no mere masonic excellence can ever supply the place.

This, though not the largest, is probably the best and richest church of its class in this province. The border churches of Parthenay, Civray, and Ruffec, all show traces of the same style and forms all more or less richly carried out; but none have the characteristic corner towers, nor do they retain their pedimented gable so perfect as Notre Dame at Poitiers.

Besides this one there are four churches in Poitiers, all which were certainly erected in the 11th century, and the greater part of them still retain unaltered the features of that age. The oldest, St. Hilaire (A.D. 1049), is remarkable for an irregularity of plan sufficient to puzzle all the antiquaries of the land, and which is only to be accounted for on the supposition of its having been built on the foundation of some earlier church, which it has replaced.



320. Plan of Cathedral at Poitiers. From Couber's 'Histoire de la Cathédrale de Poitiers.' Scale 100 ft. to 1 in.

Moutierneuf (1066) possesses in its nave a circular headed tunnel vault, ornamented with transverse ribs only, but resting on arches which cut slightly into it. It has no string course on plain wall, as is usual in the south; and in this shows a tendency towards intersecting vaulting, indicative of an approach to the northern style.

The most remarkable parts of St. Porchaire and St. Radegonde are their western towers, which are fine specimens of their class, especially that of the latter, which changes pleasingly into an octagon before terminating in a short spire. Altogether this church shows that elegance of feeling the want of which is a chief defect of the contemporary Norman style.

The cathedral of Poitiers was founded in the year 1161. Its eastern end belongs to a transitional period, while its western front was not completed till the pointed Gothic style had reached its utmost perfection, 200 years later. Its plan, however, probably belongs to the

earlier period, and presents so strong a contrast to the northern churches of the same date that it may be quoted here as belonging to the style which we are describing. The east end is square externally, but internally it contains 3 shallow niches like those on each side of St. Trinité at Angers. Its transepts are mere chapels; but its most remarkable feature is the convergence of its sides towards the east; and as its vault sinks also towards that end, a false perspective is attained which certainly at first sight gives the church an appearance of greater length than it really possesses. The 3 aisles too, being of the same height, add to the effect of space; so that, taken as a whole, this church may be quoted as the best example known of the system of attaining a certain effect by these means, and is well worthy of study on this account. It, however, I think, admits of no doubt that the northern architects were right in rejecting all these devices, and in basing their efforts on better understood and more honest principles.

It is in this province that, proceeding from the south, spires are first found in common use. The characteristic of the south is the square flat roofed tower or octagonal dome. In Anjou, towers standing by themselves, and crowned by well-proportioned spires, seem early to have been introduced, and to have been considered almost essential parts of church architecture. The representation (woodcut No. 330) of that attached to the interesting church of Cunault on the Loire is of the most common type. There is another at Chemullé, almost exactly like it, and a third on the road between Tours and Loches, besides many others which differ but slightly from these in detail. They all want the aspiring lightness afterwards attained in Gothic spires; but their design and ornaments are good, and their outlines well suited to the massive edifices to which they are attached.



330. Spire at Cunault. From Faultrier.

Most of the conventual buildings attached to the churches in this province have disappeared, either during the struggle with the Huguenots, or in the later and more disastrous troubles of the Revolution, so that there is scarcely a cloister or other similar edifice to be found in the province. One or two fragments however still exist, such

as the 'Tour d'Evrault.'[1] This is a conventual kitchen, not unlike that at Glastonbury, but of an earlier age, and so far different from anything else of the kind that it was long mistaken for a building of a very different class.

Another fragment, though probably not ecclesiastical, is the screen of arches recently discovered in the hôtel of the Préfecture at Angers. As a specimen of elaborate exuberance in barbarous ornament, it is unrivalled even in France, but it is much more like the work of the Normans than anything else found in the neighbourhood. Owing to its having been so long built up, it still retains traces of the colouring with which all the internal sculptures of this age were adorned.

The deficiency in ecclesiastical buildings in this province is made up to a great measure by the extent and preservation of its Feudal remains, few of the provinces of France having so many and such extensive fortified castles remaining. Those of Angers and Loches are two of the finest in France, and there are many others scarcely less magnificent. Few of them, however, have features strictly architectural; and though the artist and the poet may luxuriate on their crumbling time stained towers and picturesque decay, they hardly belong to such a work as this, nor afford materials which would advance our knowledge of architecture as a fine art.

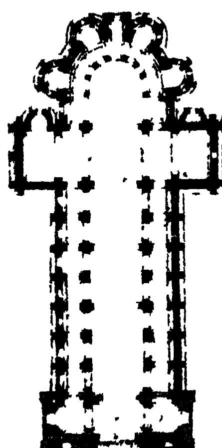
[1] This building is well illustrated in Turner's 'Domestic Architecture.'

CHAPTER IV.

AUVERGNE.

CONTENTS.

THE last of the Southern provinces which requires to be distinguished is that of Auvergne, one of the most beautiful as well as one of the most complete of the round Gothic styles of France. The country in which it is found is as distinctly marked out as the style, for no naturalist can cross the frontier of the territory without at once being struck by the strange character of its scenery. It is a purely volcanic country, to which the recently extinguished craters impart a character not found in any other province of France. Whether its inhabitants are of a different race from their neighbours, has not yet been investigated. At all events, they retain their original characteristics less changed than any other people inhabiting the South of France. Their style of architecture is distinct, and early reached a degree of perfection which no other in France had then attained; it has, moreover, a greater resemblance than we have hitherto found in France to the Lombard and Rhenish styles of architecture. The other styles of Southern France—whatever their beauties may be—certainly never reached that degree of independent completeness which enables us to class that of Auvergne among the perfected styles of Europe.

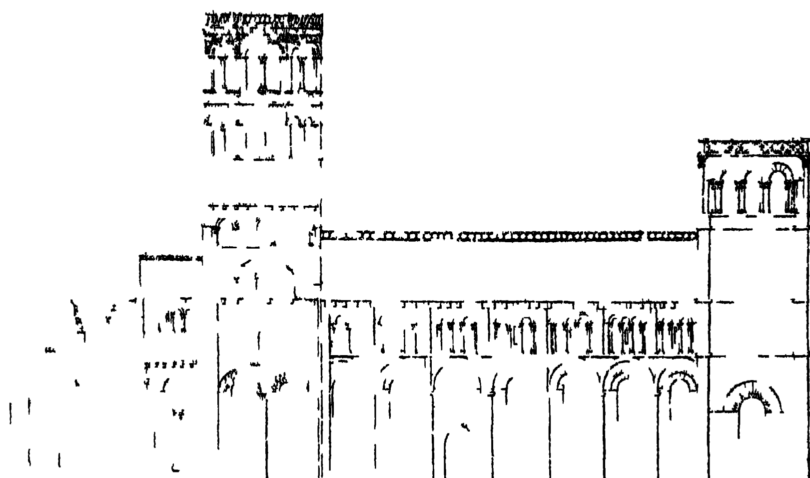


Church at Issoire. From Mallay. Scale 100 ft. to 1 in.

In the department of Puy de Dôme there are at least four churches of the typical form of this style, which have been edited by M. Mallay—those of Issoire, of N. D. du Port at Clermont, of Orcival, and of St. Nectaire—which only differ from one another in size, and in the arrangement of their aspidal chapels. That of Issoire has a square central chapel inserted, which is wanting at Clermont and Orcival, while St. Nectaire has only three instead of four aspidal chapels.

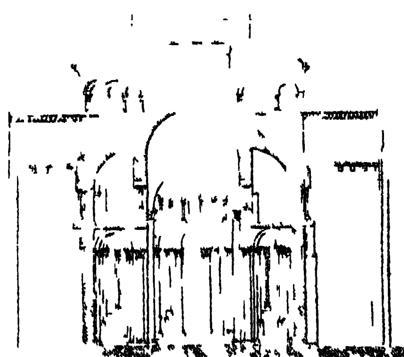
The largest of these is that of Issoire, of which a plan is here given, from which it will be seen that, though small, it is beautifully arranged. The transepts are just sufficiently developed to give expression to the

extension and to separate the nave from the choir, which are beautifully proportioned to one another.



Elevation of Church at Issoire. From Mallay. Scale 50 ft. to 1 in.

They all possess central towers raised on a mass of masonry extending to the whole width of the church, which gives them a breadth of base found in no other style. The want of this is painfully felt in most of our own central spires, all of which need something more to stand upon than the central roof out of which they seem to grow; but I do not know that any attempt was ever made to remedy the difficulty anywhere but in Auvergne. All these churches were intended to have western towers, the massive foundations for which are found in every example, though there does not appear to be a single instance in which these exist in a complete state.



Section of Church at Issoire, looking East. From Mallay. Scale 50 ft. to 1 in.

The side aisles are always covered by intersecting vaults, but that of the nave is invariably a simple tunnel vault, as in the Southern styles, ornamented by occasional transverse ribs and which in the church at Issoire is slightly pointed.

To support this great vault a semi vault is carried over the side aisles—as shown in the section—which forms a massive and perfect

abutment to the thrust of the great arch; besides, as before pointed out, rendering the vault independent of a wooden covering, which, though in some instances supplied, was certainly not originally intended. The defect of this arrangement is of course evident, as compared with the Northern styles, inasmuch as a clerestory was impossible, and the only effective light that could be admitted was through the side-aisles. These churches, however, have an approach to a clerestory not found in that at Fontifroide, before quoted, in having a triforium or range of arches opening into the gallery, which gave a lightness of character to the superstructure, and admitted to a certain extent a borrowed light.

Externally, the projection of the buttresses is slight, and they are connected by arches, struck from the same centres as the windows, above which three small arches relieve and ornament the upper part of the nave. The central arch of these is pierced with the small window which lights the upper gallery. Above this is a cornice of more elegance and of greater projection than is usually found in churches of this age.

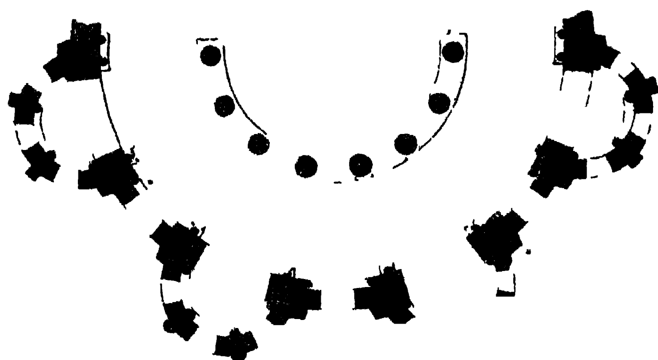
The most beautiful and most admired feature of the style is the arrangement of the chapels of the chevet externally.



[illegible] Elevation of Chevet, Notre Dame du Port Clermont. From Chapuy. No scale.

In the view given above of St. Saturnin, Toulouse (woodcut No. 317), as in almost all the churches of that style, it will be observed how awkwardly these chapels are stuck on, as if they were afterthoughts, and altogether foreign to the main lines of the building. Here, however, all the parts are pleasingly subordinated one to the other, and the whole are so grouped as to form a design equal, if not superior, to the

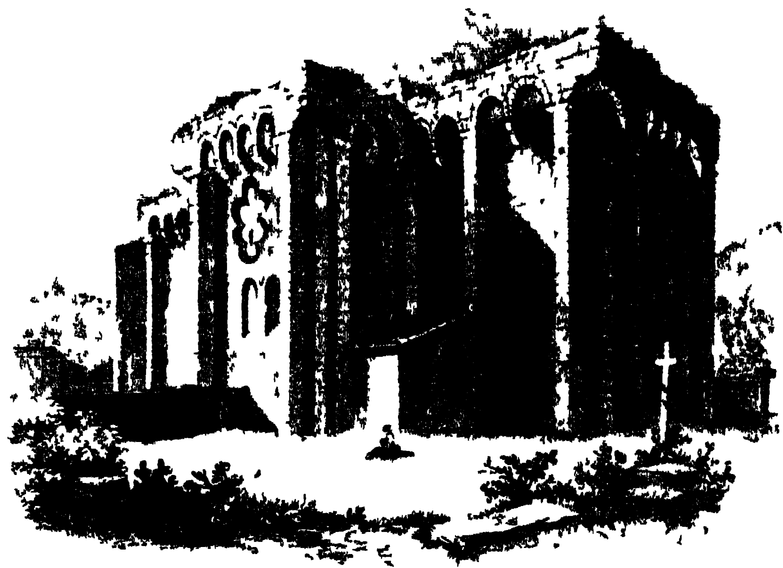
galleried apses of the German and Lombard churches. The place of these galleries is here supplied by a mosaic decoration formed with the different coloured lavas of the extinct volcanos of the district, which gives not only a pleasing local character to the style, but is interesting as the only specimen of external polychromatic decoration now to be found so far to the north. In effect, this is perhaps hardly equal to the open galleries of the German churches; but the expense must have been considerably less, and the variety of the outline of the chevet arrangement, as compared with the simple apse, gives to these churches some advantages over the contemporary buildings on the Rhine. Indeed, as far as external decoration is concerned, it may be questioned whether the French ever surpassed these; and were they carried out on the same scale as those of Amiens and Chartres, I am convinced they would be thought more beautiful. It is true the flying buttresses and pinnacles of the pointed style enabled the architects to introduce far larger windows and gorgeous decorations of painted glass, and so to improve the internal effect of their churches to an immense extent; but this was done at the sacrifice of much external simplicity of outline and propriety of effect, which we cannot but lament could not be reconciled with the requisite internal arrangements.



235. Plan of Chevet, Notre Dame du Port, Clermont. From Chapuy. No scale.

The age of these churches is not very well ascertained. M. Mallay is inclined to place them principally in the 10th century, though the pointed form of the vault at Issoire induces him to bring that down to the 12th century: but we have seen enough to know that such a pointed form, on the contrary, is more likely to be ancient than the rounded one, which requires better construction, although in that age it was thought more beautiful. My own impression is, that they belong generally to the 11th century, though some were no doubt commenced in the 10th, and probably continued to the 12th; but their uniformity of style is such, that not more than one century could have elapsed between the first and the last. Only one circular church, so

far as I know, is found in the district. It is a sepulchral chapel in the cemetery at Chambon small in size, being only 26 ft. wide over all, but elegant in its proportions, and showing the same style of decoration as the apses of the larger churches.



Fortified Church at Royat. From Mallay.

Among the exceptional churches of this district, one of the most interesting is that of Royat illustrated in woodcut No. 336, being a specimen of a fortified church, such as are sometimes though not frequently found in France. That at Maguelonne quoted above (p. 412) is another, and there are several others in the South of France, but none probably either so complete or showing so many castellated features as this. In its ruined state we lose the western or possibly the central tower, which might have somewhat restored its ecclesiastical character; but even as it is it is a singularly picturesque and expressive building though it speaks more of war and bloodshed than of peace and goodwill to all men.

CHAPTER V.

BURGUNDY.

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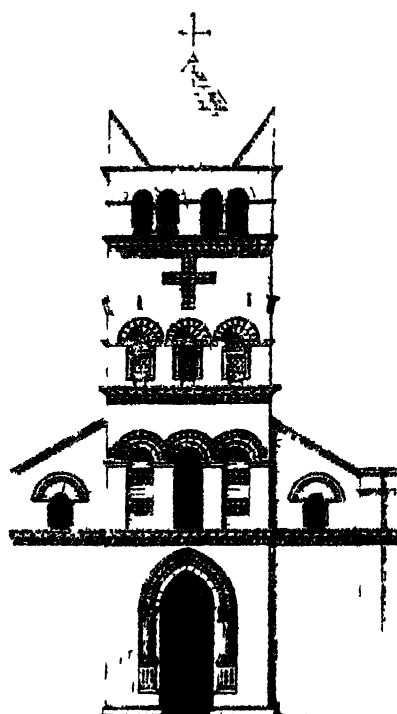
The province of Burgundy was architecturally one of the most important in France during the Middle Ages, but one the limits of which it is difficult to define. This is partly owing to the extreme fluctuation of the political power of the kingdom or dukedom, or whatever it might be, but more to the presence of two distinct peoples within its limits the one or other of which gained the ascendancy at various intervals, and according as each was in power the architectural boundaries of the province appear to have changed. In Provence the Roman or classical element remained superior down to the time when Paris influenced that province as it did all the rest of France; but this event did not take place till very nearly the end of the Gothic period. In Burgundy, on the other hand, the Classical and Barbarian streams flowed side by side—at times hardly mingling their waters at all, but at others so amalgamated as to be undistinguishable, while again in remote corners either style is occasionally found to start up in almost perfect purity.

It would add very much to the clearness of what follows if we could tell who the Burgundians were and whence they came: neither of which questions appears as yet to have received a satisfactory solution. That they differed in many respects from the other Barbarians who assisted in overthrowing the Roman empire will probably be admitted; but in the present stage of ethnographic knowledge it may seem too daring to assert that they had Turanian blood in their veins, and were Buddhists in religion before they settled on the banks of the Saone or the Rhone. Yet if this were not so, it appears impossible to account for the essentially monastic form which characterized this province during the whole Gothic period.

From the time at least when St. Gall and Columban settled themselves at Luxueil till late in the middle ages, this country was the first and principal seat of those great monastic establishments which had so overwhelming an influence on the faith and forms of those times. We must go either to India in the flourishing period of Buddhism, or to Thibet in the present day, to find anything analogous

to the monastic establishments of the 11th century in this district. All these monasteries have now passed away, and few have left even any remains to attest their former greatness and magnificence. The great basilica of Cluny, the noblest church of the 11th century, has been wholly removed within the last sixty years. Clairvaux was first rebuilt in the style of the Renaissance, but has been finally swept away within the last few years. Citeaux perished earlier, and little now remains to attest its former greatness. Luxueil is an obscure village. The destruction of the church of St. Benigne, at Dijon, has already been referred to, and it would be easy to swell the catalogue of similar consequences of the great Revolution.

Tournus still remains, and at Vezelay fragments exist. Charlieu, Avallon, Autun, Langres, and Besançon, still possess in their cathedrals and churches some noble remnants of Burgundian architecture. Besides these, there are numerous parish churches and smaller edifices which would easily enable us to make up a history of the style, were they carefully examined and drawn. The architecture of Burgundy, however, has not yet been examined with the attention it deserves, and it would require long and patient personal investigation to elucidate its peculiarities.



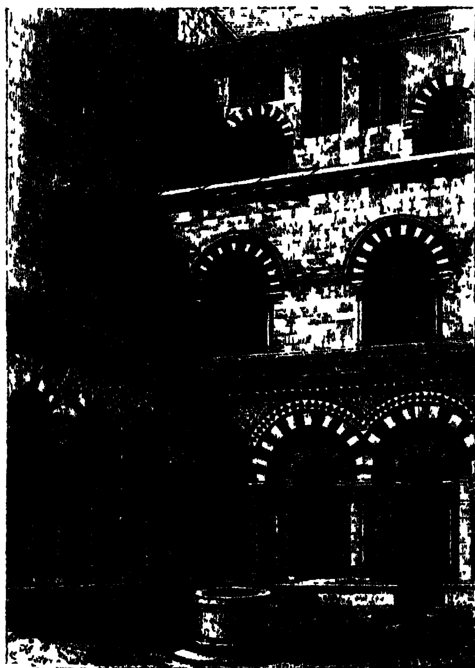
337 Façade of Church of Ainay. From a drawing by J. B. Waring. No scale.

The church of Ainay at Lyons is an early and beautiful specimen of the style when used without any classical influence, yet four Roman pillars support the intersection of the nave and transept. Its western front (woodcut No. 337) was erected probably in the 10th century, and is decorated with colours and patterns which are characteristic of the style. Nor does there seem any reason for doubting but that the pointed arch of the entrance doorway belongs to the period to which the church is assigned.

The cathedral at Puy en Vélay is another example of the same style.[1] The east end and the two first bays of the nave belong to the 10th century. The church progressed westward at the rate of two bays in a century till the last two were completed with the won-

[1] See a paper on this church by Mr. Street, read to the Institute of Brit. Architects.

derful cavernous porch under them about the year 1180. The whole length of the church is 215 ft., and its width across the nave is a little over 80. Externally its most remarkable feature is the façade of the south transept, which is perhaps the richest and most elaborate specimen of the Ainay style of decoration existing. On the north side is the cloister, which is a singularly elegant specimen of the style, but very classical in detail. The pillars are almost Corinthian in outline (woodcut No. 338), but the blunder the Romans made when using pillars with arches has in this case been avoided. If reference is made to woodcuts 202 and 204, or to any others representing the classical form, the difference will be at once perceived. In both instances the pillars are mere ornaments, but as the Romans used them they were nothing but useless additions, without even the pretence of utility. In this cloister they support the arches, and are veritable parts of the construction. It would be difficult to find any apter illustration of Pugin's famous antithesis than these examples of Roman and Burgundian architecture - the one is constructed ornament, the other ornamented and ornamental construction - and notwithstanding its rudeness, the Burgundian example is far more pleasing than the Roman, and, if used with classical details, this arrangement might now be introduced into any Italian design with the most satisfactory effect.



338. Cloister of Cathedral of Puy en Velay From a Photograph.

The church of St. Benigne at Dijon, mentioned above, was one of the oldest in Burgundy, and was probably an excellent type of the style of that country. But its total destruction and the insufficiency of the plates published by Dom Plancher preclude anything like a satisfactory study of it. The abbey church of Tournus (woodcut No. 339) is perhaps nearly as old, its antiquity being manifested by the rudeness both of its design and execution. The nave is separated from the aisles by plain cylindrical columns without bases, the capitals of which are united by

circular arches at the height of the vaults of the aisle. From the capitals rise dwarf columns supporting arches thrown across the nave. From one of these arches to the other is thrown a tunnel-vault, which thus runs the cross way of the building; being, in fact, a series of arches like those of a bridge extending the whole length of the nave. This is, I believe, the only known instance of this arrangement, and is interesting as contrasting with the longitudinal tunnel vaults so common both in this province and in the South.

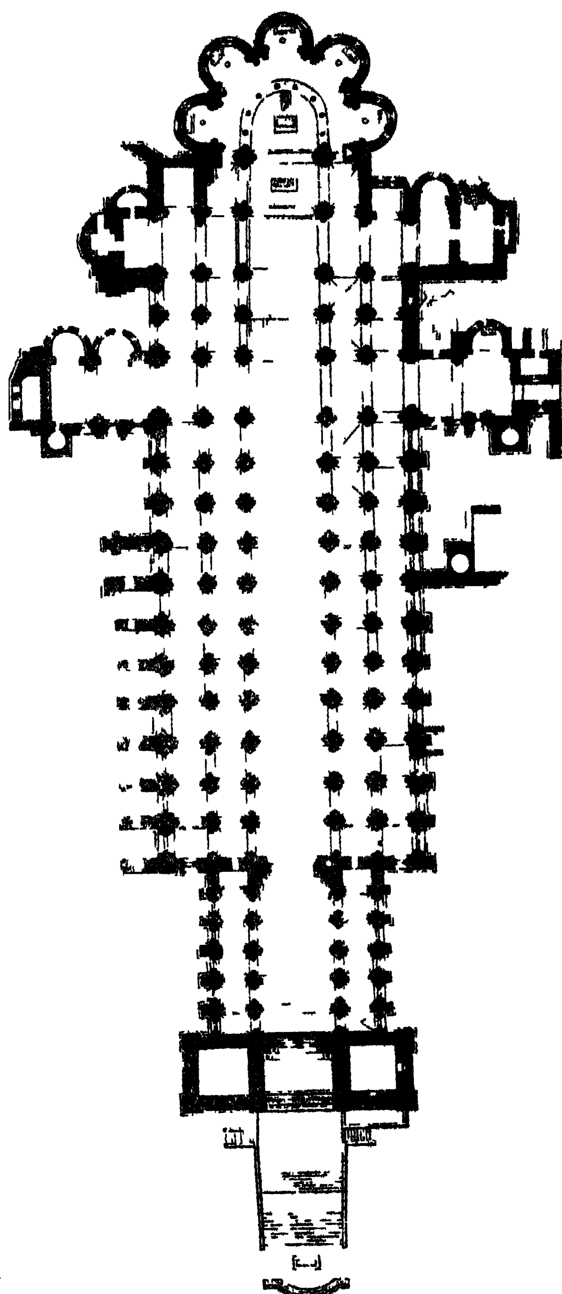
It is a curious instance of an experiment, the object of which was the getting over those difficulties afterwards removed by the invention of the intersecting arch. In the mean time this Tournus vault offered some advantages well worthy of consideration. The first of these was that the thrust of the vault was wholly longitudinal, so that only the supporting arches of the transverse vaults required to be abutted. These being low and in a well defined direction were easily provided for. Another advantage was, that it allowed of a large and well-defined clerestory, which, as we have seen, was impossible with the longitudinal vaults. On the other hand, the artistic awkwardness of the plan was a fatal objection, for, instead of conducting the eye pleasingly along the vault, it offered nothing but a succession of interruptions to the perspective.



Interior of Abbey at Tournus. From Taylor and Nodier.

In the nave of this church all the arches are circular; in the choir, which dates early in the 11th century, if not before, and which is perhaps older than the nave, the great transverse arches are slightly pointed and support at the intersection a dome, which forms the most beautiful feature in the church.

The pride of Burgundy was the great abbey church of Cluny, which, with its narthex or ante-church, measured 580 ft. in length, or considerably more than any other church erected in France in any age. Its nave was throughout 37 ft. 6 in. in width, and it had double side-aisles, making the total internal width 120 ft., while the whole area covered by it was upwards of 70,000 ft. But colossal as these dimensions are, they convey no adequate idea of its magnificence. The style throughout was solid and grand, and it must have possessed a degree of massive magnificence which we so frequently miss among the more elegant features of subsequent erections.



310. Plan of Abbey Church at Cluny. From Lorain's 'Histoire de l'Abbaye.' Scale 100 ft. to 1 in.

The semi-dome of the chevet was supported by eight noble columns, through which were seen in perspective a circle of five apsidal chapels. Externally the roof was crowned by five larger and three smaller towers, and the whole was carried up solidly to a height unrivalled among the

buildings of this age. What added to its interest was, that the church at least was at the time of its destruction an almost unaltered specimen of the architecture of the 11th and 12th centuries, having been commenced in 1089 by St. Hugues, and dedicated in 1131. The narthex or ante chapel, though somewhat more modern, was probably completed within the limits of the 12th century. These dates have been disputed, but principally on account of the theories prevalent regarding the origin of the pointed arch. This feature was used here, as it is found elsewhere, in all the pier arches separating the nave from the aisles—the vaulting of the aisles having probably been also pointed, while the great vault of the church is a plain tunnel-vault with transverse ribs on its surface. That of the narthex is a transverse vault of a later date, but of singularly clumsy construction. Whether it had a clerestory or not, is not quite clear from such drawings as we possess; but if not, it undoubtedly had a double gallery, throughout the upper range of which if not both, served to admit light.



241. View in Aisle at Cluny. From Chapuy, Cathédrales Françaises.

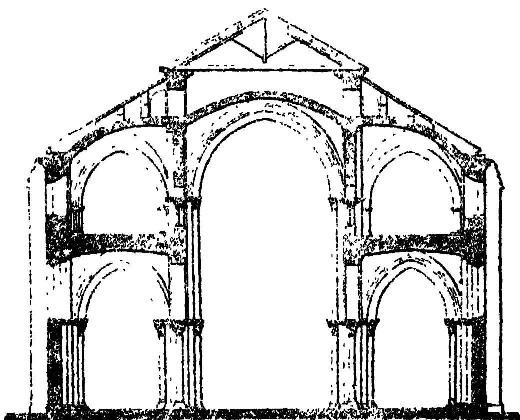
What the exact ordinance of this church was, we should hardly be able to make out from the representations we possess, were it not that some other contemporary churches in the same style still remain to us. Among these, one of the most perfect is the cathedral at Autun, formerly the chapel of the dukes of Burgundy, commenced about the year 1060, and consecrated 1132. The arrangement of its nave is extremely similar to that of Cluny, with these differences, that at Autun the great vault is slightly pointed, and attached to the piers of the nave are pilasters instead of three-quarter columns. In the ante-church, however, at Cluny, the same pilastered arrangement occurs. This is the characteristic of the true Burgundian style, and so peculiar is it, and so classical, that some antiquaries have not hesitated to consider it as a bad imitation of Gothic



242. View in Nave at Autun. From Chapuy.

forms belonging to the 15th or 16th centuries. In fact the fluted columns or pilasters, their Corinthian capitals, and the whole arrangements are so eminently classical, as almost to justify the doubt in those who are not familiar with the history of the southern styles of France. There can, however, be no doubt as to the age of these examples, and as little as to the models from which they are copied; for in this very city of Autun we have two Roman gateways (one of which is represented in woodcut No. 209), and there are others at Langres and elsewhere, which, except in the pointed arch and other constructive peculiarities, are almost identical with the style of these churches. Whether from want of familiarity with this style, or from some other cause, it certainly is not pleasing to our eyes, and we therefore turn with pleasure to the ruder but more purpose-like inventions of the purely Gothic architects of the same age.

Among these the province affords no more beautiful specimen than the nave of the church of Vezelay, which possesses all the originality of the Norman combined with the elegance of the Southern styles. In this specimen the pier arches are wide and low, there is no triforium of any sort, and the windows are small. The vault is formed by immense transverse ribs, crossing from pier to pier, and forming square compartments, each divided by plain intersecting arches, without ribs, and rising considerably in the centre. This certainly is an improvement on the vault at Cluny, though it cuts the roof too much up into divisions. Perhaps its greatest defect is its want of height, being only 60 ft. in the centre, while the total width is 86 ft. from wall to wall. But the details of the whole are so elegant as in a great measure to redeem these faults.



Section of Narthex at Vezelay. From Didron's 'Annales Archéologiques.'

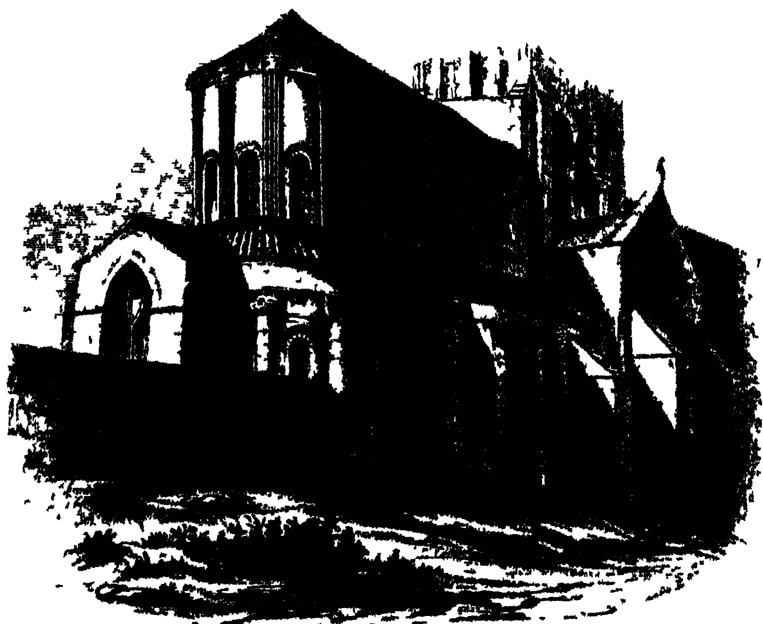
The narthex, or ante-church, resembles that at Cluny both in its importance and in being somewhat more modern than the church itself. Here it dates from the beginning of the 12th century, while the nave seems wholly to belong to the 11th. It is an extremely instructive example of the progress of vaulting. It has the bold transverse ribs, and the plain intersecting vaults, which are here, in accordance with the Southern practice, abutted by the arches of the

galleries. In the walls of the galleries are windows large enough to admit a considerable amount of light. But the vaults are here fast losing their original purpose. An arched construction supports the solid roof over the side aisles, but the central vault is covered by a wooden roof, so that the stone vault has become a mere ceiling, leaving only one easy step towards the completion of the plan of Gothic roofing. This step was to collect the vaults of the side galleries into a mass over each pier, and use them as flying buttresses, and to employ wooden roofs everywhere wholly independent of the vaults which they covered.

Vezelay is one of the most beautiful of the remaining churches of its age in Burgundy, notwithstanding that the choir, which is a chevet in the early pointed style like those in the northern provinces, rather disturbs the harmony of the whole.

Among the remaining churches of this class, the cathedral at Besançon is one of the few double-apse churches of France, and is, in plan at least, very much more like those we find on the banks of the Rhine.

The cathedral at Vienne, mentioned above, might from some of its details, particularly the form of the pier arches, be fairly classed with this style, showing as it does the fluted pilasters and other classical adjuncts found here. These peculiarities are common both to this and the Provençal style, but the boundary between them is by no means clearly defined.



314. East End, St. Menoux. From Allier, 'l'ancien Bourbonnais.'

On the northern border of the province we find the church of St. Menoux (woodcut No. 344), belonging certainly in many of its details to the style we are now describing. This is most distinctly observable in the exterior of the apse of the chevet, a feature which is seldom found unaltered; here it is surrounded by a series of pilasters of rude classical design, which give to it a peculiar local character. Internally too, its chevet is remarkably elegant, though less Burgundian in style. It



345. Chevet St. Menoux. From Allier.

shows to what an extent the stilting of round arches could be used to overcome the difficulty of combining arches of different spans, but all requiring to be carried to the same height. Like all the old churches of the province, it possesses a large and important narthex, here the oldest part of the church, and a rude and characteristic specimen of a style of architecture that can hardly be later than the 10th century.

These few specimens must suffice to define a style which well deserves a volume to itself, not only on account of its own architectural merit, but from the enormous influence exercised both by the order itself and by its monastic founders on the civilization of Europe in the age to which it belongs. During the 11th and 12th centuries Cluny was more important to France than Paris. Its influence on the whole of Europe was second only to that of Rome—civilizing barbarians by its missionaries, withstanding the feudal nobility, and in many ways counteracting the ferocity of the times.

internal and external view of one of its typical examples, the Basse Œuvre at Beauvais (woodcuts Nos. 346 and 347). It will be seen that this building consists of a nave and side-aisles, separated from each other by a range of plain arches resting on piers without either bases or capitals; on one side the angles are cut off, so as to give a slightly ornamental character; on the other they are left square. The central aisle is twice the width, and more than twice the height, of the lateral aisles, and has a well defined clerestory; the roof, both of the central and side aisles, is a flat ceiling of wood. The eastern end has been destroyed, but judging from other examples, it probably consisted of three apses, a large one in the centre and a smaller one at the end of each aisle.





346, 347. External and Internal View of Basse Œuvre. From Woillez.

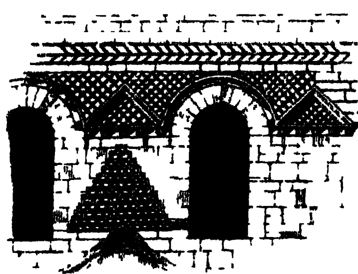
The similarity of the form of this church to the Roman basilicas will be evident in referring to the representations of those buildings, more especially to that of St. Vincenzo alle Tre Fontano (woodcut No. 258), though the details have nothing in common except in the use of flat tiles between the cornices of the arches, which is singularly characteristic of Roman masonry. The points in which this example is most evidently the source of some of the important peculiarities of the true Gothic, are the subordination of the side aisles to the central one, and the perfectly developed clerestory. These are not found in any of the styles of France hitherto described.

Eventually, as we shall shortly see, stone became the material used in the interior ceiling of Gothic vaults, but protected externally by a wooden roof. This stone vault was not, I believe, attempted before the

11th century. In the meanwhile wooden-roofed churches, like that at Beauvais, seem to have been usual and prevalent all over the north of France, though, as may be supposed, both from the smallness of their dimensions and the perishable nature of their materials, most of them have been either superseded by larger structures, or have been destroyed by fire or by the accidents of time.

M. Woillez describes five or six as existing still in the diocese of Beauvais, and varying in age from the 6th or 7th century, which probably is the date of the Basse Œuvre, to the beginning of the 11th century; and if other districts were carefully examined, more examples would probably be found. Normandy must perhaps be excepted, for there the rude Northmen seem first to have destroyed all the churches, and then to have rebuilt them with a magnificence they did not previously possess.

Churches of the same class, or others at least extremely similar to them, as far as we can judge from such representations as have been published, exist even beyond the Loire.* There is one at Savonières in Anjou, and a still more curious one at St. Généreux in Vienne, not far from Poitiers, which shows in great perfection a style of decoration by triangular pediments and a peculiar sort of mosaic in brick-work.



348. Decoration of St Généreux. From Gailhabaud.

The same style of decoration is carried out in the old church of St. Jean at Poitiers, which probably is even older than the Basse Œuvre of Beauvais. The old church, which now forms the ante-church to St. Front at Perigeux (woodcut No. 301), seems also to belong to the same class; but, if M. Félix de Verneilh's restoration is to be trusted, it approaches nearer to a Romanesque style than any other of its class, of which it may nevertheless possibly be the most southern example.

Perhaps the most interesting example of the style is the nave of the church of Mortier en Der, near Vassy, almost due east from Paris. It is perfectly plain very like San Vincenzo (woodcut No. 258), and is a perfect Romanesque example with a wooden roof; the design for which was probably brought direct from Rome when this church was erected in this remote village. What, however, gives it its greatest interest for our present purpose arises from the fact that the apse or choir was rebuilt in the 13th century, and we have consequently in immediate juxta-position the Romanesque model as it was introduced to the Barbarians, and the result of their elaboration of it—the germ of the Gothic style and the full-blown flower.

As before pointed out (p. 404), the progress was slow in the forma-

CHAPTER VI.

FRANKISH PROVINCE.

CONTENTS

Exceptional buildings - Basse Œuvre, Beauvais — Decoration.

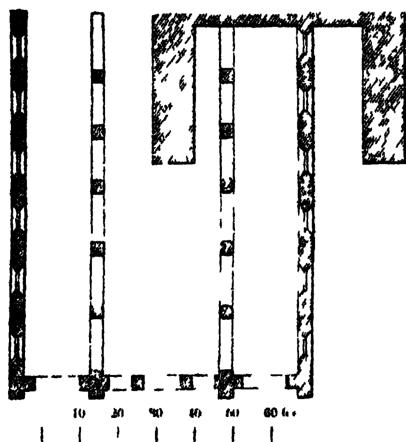
INTRODUCTORY.

THE architecture of the Northern division of France is certainly the most interesting subject in the whole history of the Mediæval styles. This subject comprehends the origin and progress of that form of pointed architecture which in the 13th century extended from Paris as a centre to the remotest corners of Europe, pervading the whole of Germany, Britain, and even Spain and Italy. In these countries it generally obliterated their own peculiar styles, and usurped their places, so that it became the Gothic style *par eminence*, and the only one ordinarily understood under that name. It has gained this distinction, not perhaps so much from any inherent merit of its own, as because it was the only one of all the Mediæval styles which was carried beyond the simple rudiments of the art, and enjoyed the advantage of being perfected by a powerful and united people who had advanced beyond the first elements of civilized society. It is needless now to inquire whether the other styles might not have been made as perfect, or more so, had the same amount of talent and of time been bestowed upon them. All we can say is, that no other style was so carried out, and it is impossible to attempt it now: the pointed Gothic had therefore the opportunity which the others were deprived of, and became the prevalent style in Europe during the middle ages. Its history is, therefore, that to which attention must always be principally directed, and from which all lessons and all satisfactory reasoning on the subject must be principally derived.

The great divisions into which the early history of the style naturally divides itself have already been pointed out. The great central province I have ventured to call the Frankish. It was there that the true Gothic pointed style was invented, and thence that it issued in the middle of the 12th century, first pervading the two great subordinate divisions of Normandy on the one hand, and Burgundy on the other. In Normandy, before this time, a warlike race had raised themselves to power, and with an inconsistency characteristic of their state of civilization devoted to sacred purposes the wealth they had

ac[illegible] by rapine and plunder, covering their province with churches, and erecting a rude style of architecture singularly expressive of the bold and energetic character.

In Burgundy, as we have just seen, both the style and its history differed considerably from this. From some cause which has not yet been explained, this country became early the favourite resort of hermits and of holy men, who founded here those great monastic establishments which spread their influence not only over France, but over the whole of Europe, controlling to an immense extent all the relations of European society in the middle ages. The culminating epoch of the architecture of Normandy and Burgundy was the 11th century. In the 12th, the monarchical sway of the central province was beginning to be felt in them. In the 13th it superseded the local character of both, and gradually fused them with the whole of France into one great and singularly uniform province.



Plan and Section of Basse Œuvre, Beauvais. From Woillez, 'Monuments Religieux de Beauvais.'

Latin Style.[1]

Before proceeding to describe the local forms of architecture in Central France it is necessary to say a few words regarding a class of buildings which have not hitherto been mentioned, but which must not be passed over. These cannot be included in any other style, and are so nearly devoid of architectural features, properly so called, that they might have been omitted but for one consideration. They bear so remarkable a resemblance to the earliest Christian churches of Rome on the one hand, and to the true Gothic on the other, that we cannot doubt their being the channel through which the latter was derived from the former. They are moreover the oldest churches in Northern France, which is sufficient to confirm this view.

The character of this style will be understood from the plan and

[1] "Style Latin" is the name generally adopted for this style by the French architects.

Indeed, like the transitional churches last described, these must be considered as the religious edifices of the inhabitants before that invasion; and if they show any affinity to any other style, it is to Belgium and Germany we must look for it rather than anywhere within the boundaries of France.

Amongst the oldest-looking buildings of pure Norman architecture is the church of Léry, near Pont de l'Arche. It is the only one, so far as is known, with a simple tunnel-vault, and this is so massive, and rests on piers of such unusual solidity, as to give it an appearance of immense antiquity. There is no good reason, however, for believing that it really is older than the chapel of the Tower of London, which it resembles in most respects, though the latter is of somewhat lighter architecture.

Passing from this we come to a series of at least five important churches, all erected in the latter half of the 11th century. The first of these is the church of Jumièges, the western end of which was principally erected by Robert, afterwards Bishop of London, and finally Archbishop of Canterbury. Its precise date is not very well known, though it was probably begun before 1050, and certainly shows a far ruder and less complete style of architecture than any of the later churches. It is doubtful whether it was ever intended to throw a vault over the nave; yet the walls and piers are far more massive than those of the churches of Caen, or of Bocherville in its immediate neighbourhood. This last we know to have been commenced in the year 1050, and completed in 1066. This church still retains in a wonderful state of completeness all the features of a Norman church of that age - the only part of it which is of a more modern date being the two western turrets, which are at least a century later.

The next of the series is the well-known Abbaye aux Hommes, or St. Stephen's, at Caen (woodcut No. 351), commenced by William the Conqueror, 1066, in gratitude for his victory at Hastings, and dedicated eleven years afterwards. Then follow the sister church of the Trinité, or Abbaye aux Dames, commenced in 1083, and the parish church of St. Nicolas at Caen, begun in the following year. These two last were almost certainly completed within the limits of the 11th century.

Of all these the finest is St. Stephen's, which is a first-class church, its extreme length being 364 ft. It was not originally so long, having terminated with an apse, as shown in the plan, Fig. 1, which was superseded about a century afterwards by a chevet, as shown Fig. 2. This, however, was an innovation--all the round Gothic churches in Normandy having originally been built with apses, nor do I know of a single instance of a chevet in the province. This circumstance points rather to Germany than to the neighbouring districts of France for the origin of the Norman style—indeed all the arrangements of this

church are more like those of the Rhenish basilicas, that of Spires for example, than any of those churches we have hitherto found within the limits of France itself. This is more remarkable at Jumièges than even here. None of them, however, have two apses, nor are lateral entrances at all in use: on the contrary, the western end, or that opposite the altar, is always, as in the true basilica, the principal entrance. In Normandy we generally find this flanked by two towers, which give it a dignity and importance not found in any of those styles we have been examining. These western towers became afterwards in France the most important features of the external architecture of churches, though it is by no means clear whence they were derived. They are certainly of neither Italian nor German derivation, nor do they belong to any of those styles of the southern provinces of France which we have been describing. The churches of Auvergne are those which perhaps show the nearest approach to them.

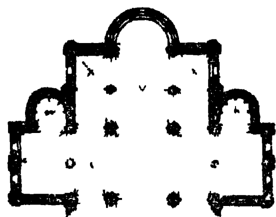


Fig 1 Original Eastern termination

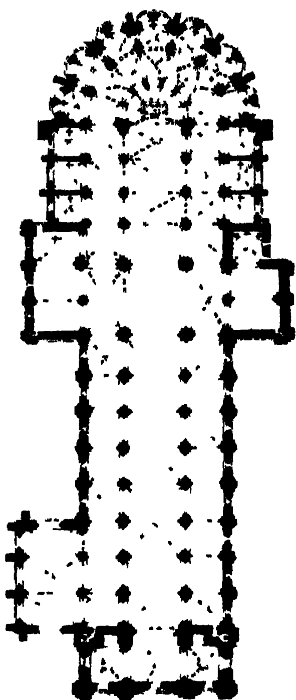
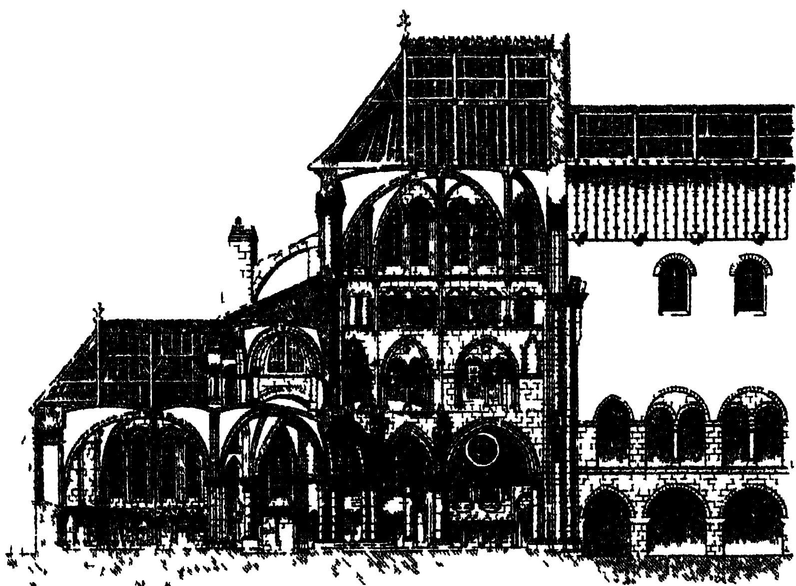


Fig 2

351 Plan of the Church of St Stephen Caen From Ramée, 'Histoire de l'Architecture' Scale 100 ft to 1 in

On the whole it appears most probable that the western fronts of the Norman churches were taken from the façades of Germany, and the towers added to give dignity to them. As will be seen from the view (woodcut No. 352), in St. Stephen's at Caen the feature is well marked and defined, for though the spires were apparently added at the same time as the chevet, the towers which support them evidently belong to the original design. They may be regarded as the prototype of the façades of nearly all the Gothic cathedrals of France. These western towers eventually superseded the attempt made to raise the principal external feature of the churches on the intersection of the nave with the transepts, as had been done in the South, and they made the western front the most important part, not only in decoration, but in actual height. Here and throughout the north of France, with the exception of the churches at Rouen, the central tower is low and comparatively insignificant, scarcely even aspiring to group with those of the western façade.

tion of a new style during the 1000 years that elapsed between the building of the Temple of Diana at Nîmes and the Church at Carcassone, but here within the limits of two, or at most three centuries, the progress made was so rapid as to be startling. The inhabitants of Central France appear at once to have comprehended the significance of the problem, and to have worked it out with a steadiness and energy of which it must be difficult to find another example. The nave of the church is as poor and as lean as it can well be, but every part of the choir is ornamented while nothing is overdone; and there is not one single ornament which is not appropriate to its place, or which may not fairly be considered as a part of the ornamented construction of



349 Section of Eastern portion of Church of Mortier en Der. From the 'Archives des Monuments,' &c.

the building. It was an entirely new style invented on the spot, and complete in all its parts. Some of its ornaments were afterwards made more elegant, and more might have been done in this direction; but as here represented the style was complete, and it is certainly one of the most beautiful creations of the class which ever emanated from the activity of the human brain. It is also interesting as being one of the few where every step in the progress can be traced and every result understood.

What we have now to attempt, is to point out—as clearly as our limits will admit of—the steps by which the architecture of the western half of the church of Mortier en Der was converted into that of the choir.

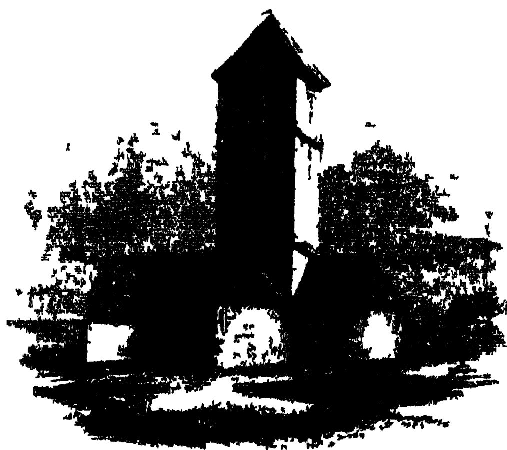
CHAPTER VII.

NORMANDY.

CONTENTS.

Triapsal churches — Churches at Caen — Intersecting vaulting — Bayeux.

WITH one or two slight exceptions the whole history of the Round-arched Norman Gothic is comprehended within a period of less than a century. No building in this style is known to have been even commenced before the year 1050, and before 1150 the pointed style had superseded it. Indeed, practically speaking, all the great and typical examples are crowded into the last fifty years of the 11th century. This was a period of great excitement and prosperity with the Northmen, who having at last settled themselves in this fertile province, not only placed their dukes on an equality with any of the powers then existing in France, but by their conquest of England raised their chief to an importance and a rank superior to that of any other potentate in Europe except the German emperors of that day, with whose people they were in fact, both by race and policy, more closely allied than they were with those among whom they had settled.

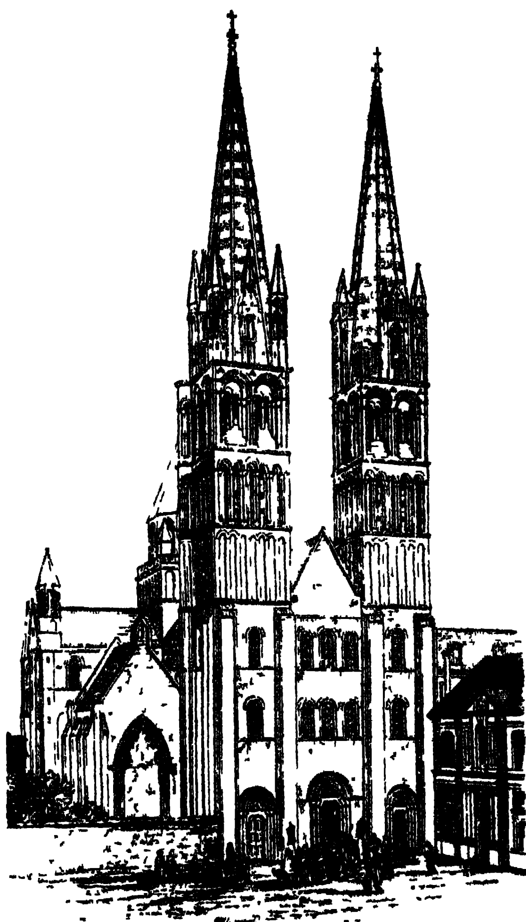


Triapsal Church at Querqueville. From Dawson Turner's 'Normandy.'

There are two exceptional churches in Normandy which should not be passed over in silence: one is a little triapsal oratory at St. Wandrille, the other a similar but somewhat more important church at Querqueville, near Cherbourg, on the coast of Brittany. Both are rude and simple in their outline and ornaments; they are built with that curious herring-bone or diagonal masonry indicative of great age, and differing in every essential respect from the works of the Normans when they came into possession of the province.

Intersecting Vaulting.

As there are few churches in France which illustrate so completely the difficulties of intersecting vaulting, and the struggle of the mediæval architects to conquer them, as St. Stephen's, Caen, it may add to the clearness of what follows if we pause in our narrative to explain what these were.

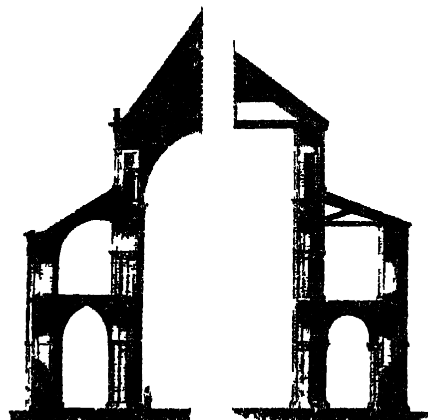


Western Façade of St. Stephen, Caen. From Pugin and Britton's 'Normandy.'

The churches described hitherto possessed simple tunnel-vaults, either of round or pointed forms, or, having no side-aisles, were roofed with square intersecting-vaults of equal dimensions each way. The former plan was admissible in the bright south where light was not so much required, but the latter expedient deprived the churches of several things which were always felt to be the powerful requisites of an internal style of architecture. Without the contrast in height between the central and side-aisles, the true effect of the dimensions could not be obtained. Without the internal pillars no poetry of proportion was possible, and without an ambulatory, processions lost their meaning. The compartments of the aisles being square, no difficulty was experienced as regards them; but the central aisle being both higher and wider, it became necessary either to ignore every alternate pillar of the aisle, and to divide the central roof equally into squares, or to adopt some compromise. This difficulty was not got over till the

pointed arch was introduced. but in the meanwhile it is very instructive to watch the various attempts that were made to obviate it.

There can be little doubt that the Norman architects, with true Gothic feeling, always intended that their churches should eventually be vaulted and prepared them accordingly, though in many instances they were constructed with wooden roofs, or compromises of some sort. Even at Jumièges, the alternate piers were made stronger, and the intention there and in other instances seems to have been to throw a stone arch across the nave so as to break the flat line of the roof, and give it at least a certain amount of permanent character. In the Abbaye aux Hommes, Caen, even this does not appear to have been attempted in the first instance. The vaulting shafts were carried right up and made to support wooden trusses, as shown on the right hand of the diagram (woodcut No. 353).[1] The intention, however, may have been to cut these away when the vault should come to be erected. In England they frequently remain, but rarely if ever in Normandy. The next step was to construct a quadripartite vault over the nave, and a simple arch supporting its crown over the intermediate shaft. This was soon seen to be a mistake, and in fact was only a make shift. In consequence at Caen a compromise was adopted, which the woodcut No. 355 will explain,—a sort of intermediate vault was introduced springing from the alternate piers[2];—mechanically it was right, artistically it was painfully wrong. It introduced and declared a number of purely constructive features without artistic arrangement or pleasing lines, and altogether showed so plainly the mere mechanical structural wants of the roof as to be most unpleasing. Before, however, they could accomplish even this, the side aisles had to be revaulted with pointed arches

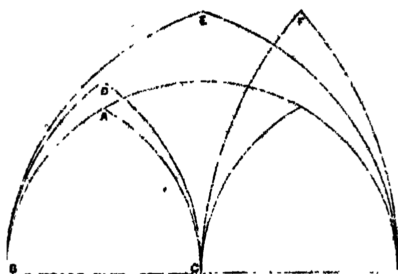


353. Fig 1, after Vaulting; Fig 2, before Vaulting Section of Nave of St. Stephen, Caen

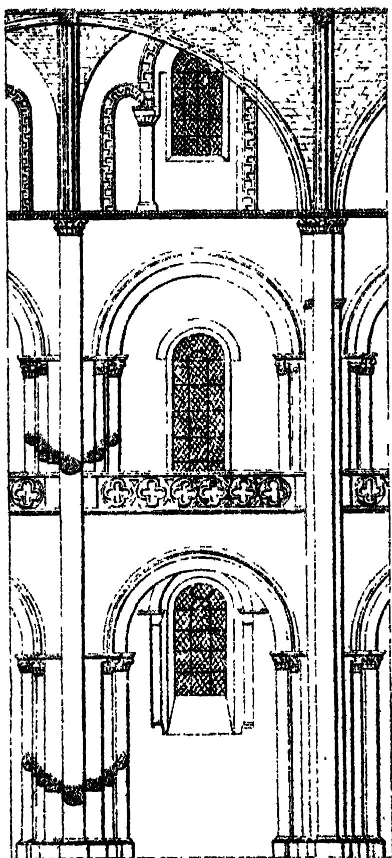
[1] From a paper by Mr Parker on this subject, read to the Institute of British Architects.

[2] This arrangement is known by the name of *hexapartite*, or *sexpartite*, because the compartment of the vault having been divided into four by the great diagonal arches crossing one another in the centre (which was the *quadripartite* arrangement), two of the four quarters were again divided by the arch thrown across from one intermediate pillar to the other, thus making six divisions in all, though no longer all of equal dimensions, as in the quadripartite method. Both these arrangements are shown in plan on woodcut No. 351.

so as to carry the centre of gravity higher. A half vault was thrown over the gallery as shown in Fig. 1, on the left side of the woodcut No. 353, and the whole upper structure considerably strengthened. When all this was done they ventured to carry out what was practically, as will be seen from the plan (woodcut No. 351), a quadripartite vault with an intermediate insertion, which insertion was, however, neither quite a rib, nor quite a compartment of a vault, but something between the two; and in spite of all the ingenuity bestowed upon it in Germany, France, and England, in the 11th and beginning of the 12th centuries, it never produced an entirely satisfactory effect, until at last the pointed arch came to the rescue. It is easy to see from the diagram (woodcut No. 354) how the introduction of the pointed arch obviated the difficulty. In the first place, supposing the great vault to remain circular, two segments of the same circle, A B, A C, carry the intersecting vault nearly to the height of the transverse one, or it could as easily be carried to the same height as at D. When both were pointed, as at E and F, it was easy to make their relative heights anything the architect chose, without either forcing or introducing any disagreeable curves. By this means the compartments of the vaults of the central nave were made the same width as those of the side-aisles, whatever their span might be, and every compartment or bay was a complete design in itself, without reference to those next to it on either side.



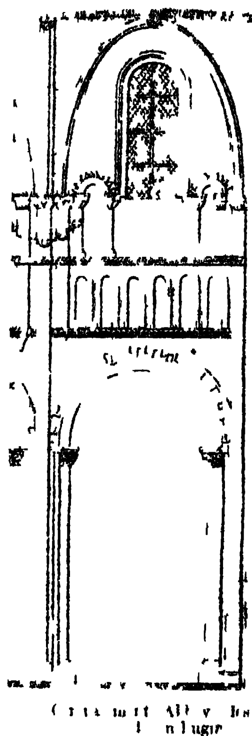
354. Diagram of Vaulting.



355. Elevation of Compartment of Nave of St. Stephen, Caen. From Pugin.

The arrangement in elevation of the internal compartments of the nave of this church will be understood from woodcut No. 355, where it will be seen that the aisles are low, and above them runs a great gallery, a feature common in Italy but rare in Germany. Its introduction may have arisen either from a desire for increased accommodation, or merely to obtain height, as it is evident that an arch the whole height of the side aisles and gallery would be singularly narrow and awkward. This was one of those difficulties which were only got over by the introduction of the pointed arch, but which, whenever attempted in the circular style, led to very disagreeable and stilted effects. It may however have been suggested by the abutting galleries we find so frequently used in Southern churches. Be this as it may, the two storeys of the aisles fill up the height far more pleasingly than could be done by one, and bring an abutment up to the very springing of the main vault of the nave.

The worst feature in this elevation is the clerestory, where the difficulties of the vaulting introduced a lop-sided arrangement very destructive of true architectural effect, and only excusable here from the inherent difficulties of a first attempt.



Compartment Abbaye aux Dames. (From Pugin.)

During the twenty or thirty years that elapsed between the building of St. Stephen's church and that of the Abbaye aux Dames, immense progress seems to have been made towards the new style, as will be seen from the annexed elevation of one compartment of the nave of the latter. The great gallery is omitted, the side aisles made higher, the piers lighter and more ornamental. The triforium is a mere passage under the upper windows, and so managed as not to intercept their light from any part of the church. Even the vaulting, though in some parts hexapartite, in others shows a great approach to the quadripartite vaulting of the subsequent age; this however, is obtained by bringing down the main vault to the level of the side vault, and not by raising the side-arches to the level of the central, as was afterwards done. The greatest change is in the richness and elegance of the details, which show great progress towards the more ornamental style that soon afterwards came into use.

The parochial church of St. Nicolas at Caen is naturally plainer than either of these royal abbeys. It shows considerable progress in construction, and deserves far more attention than it has hitherto met

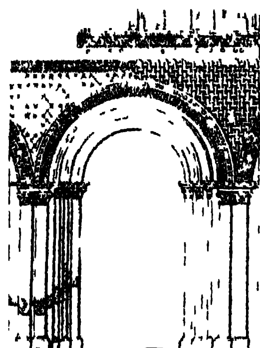
with. It is the only church, so far as I know, in Normandy, that retains the original external covering of its apse. This consists, as shown in the woodcut (No. 357), of a high pyramidal roof of stone, following to the eastward the polygonal form of the apse, and extending one bay towards the west. From an examination of the central tower, it is clear that this was not the original pitch of the church roof, which was nearly as low in all Norman churches as in those of Auvergne. In this instance the roof over the apse was a sort of semi-spire placed over an altar, to mark externally the importance of the portion of the church beneath it. In appearance it is identical with the polygonal cones at Loches before mentioned. At Bourges, and elsewhere in France, similar cones are found over chapels and altars, but in most instances they have been removed, probably from some defect in construction or from their not harmonizing with the wooden roofs of the rest of the church. They were in fact the originals of the spires which afterwards became so much in vogue, and as such their history would be interesting if properly inquired into.

The cathedral of Bayeux as it now standing is considerably more modern than either of these, no part remaining of the church of Odo,



357. East End of St. Nicolas, Caen. From Dawson Turner's 'Normandy.'

the brother of the Conqueror, except the lower portion of the western towers, and a crypt, which is still older. The pier arches of the nave belong to the first half of the 12th century, the rest of the church to the rebuilding, which was commenced 1157, after the town had been burnt, and the cathedral considerably damaged, by the soldiers of Henry I. At this time the apse was removed to make way for a chevet, which is one of the most beautiful specimens of early pointed Gothic to be found in France, and far surpasses its rival in the Abbaye aux Hommes at Caen. In the church at Caen, the alteration was probably made to receive the tomb of the Conqueror, when that veneration began to be shown to his remains which was denied to himself when dying. Here, however, the same motive does not seem to have existed, and it is more probable that the extension was caused by the immense increase of the priesthood in the course of the 11th and 12th centuries, requiring a larger choir for their accommodation. We know from the disposition of the choir, that the nave originally had a great gallery over the side-aisles, and consequently a low clerestory. But before it was rebuilt in the end of the 12th, or beginning of the 13th century, the mania for painted glass had seized on the French architects, and all architectural propriety was sacrificed to this mode of decoration. In the present instance we cannot help contrasting the solid grandeur of the basement with the lean and attenuated forms of the superstructure, although this attenuation was in other examples carried to a still greater extent afterwards.


Lower Compartment, Nave, Bayeux. From Pugin.

The diapering of the spandrils of the lower arches (woodcut No. 358) is another feature worthy of remark, as illustrating the history of the style. Before painted glass was introduced, the walls of all churches in Northern Europe were covered with fresco or distemper paintings, as was then, and is to the present day, the case in Italy. But when coloured windows came into use, the comparative dulness of the former mode of decoration was immediately felt, and the use of colour confined to the more brilliant transparent material. It was necessary to find a substitute for the wall painting, and the most obvious expedient was that of carving on the stone the same patterns which it had been customary to paint on them. An attempt was made, indeed, to heighten the effect of this carving by inlaying the lines with coloured mastic or cement, but the process was soon found to be not only very expensive but very ineffective, and gave way afterwards to sculptured figures in traceried pannels. These ornaments easily filled up the very small spaces of wall that were not occupied either by the windows, which

were greatly enlarged, or by the constructive supports of the building. Now, however, that colour is gone both from the walls and the windows, this diapering gives a singularly rich and pleasing effect to the architecture of the lower storey, and, combined with the massiveness and varied richness of the piers themselves, renders this a nearly unique specimen of a Norman arcade, and one of the most beautiful that has come down to us.

These examples are, it is hoped, sufficient to make known the general characteristics of a style which is at the same time of great interest to the English reader from its proximity to our shores, and from its influence on our own, although it is comparatively so familiar as to require less illustration than many others. Besides the examples above described, many other specimens of Norman architecture might have been given, filling up the details of the series from the rude simplicity of Jumièges to the elaborate richness of the nave of Bayeux, and showing a rapidity of progress and boldness in treating the subject hardly surpassed in the succeeding ages; but still, with all its developments, it can only be considered as a first rude attempt to form a style of architecture which was superseded before its principles began to be understood, and lost before it had received any of those finishing touches which form the great element of beauty in all the more perfect styles.

CHAPTER VIII.

FRANKISH ARCHITECTURE.

CONTENTS.

Historical notice — The pointed arch — Freemasonry — Mediæval architects.

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The architectural history of the central or Frankish province is widely different from that of any of those we have yet examined. At the end of the 5th century the whole of the north of France was overrun by Clovis and his Franks, and on his death in 511 his dominions were divided into four kingdoms, of which Metz, Paris, Soissons, and Orleans, were the capitals. If we take these cities as centres, and add their districts together, they correctly represent the limits of the architectural province we are now entering upon. With various fluctuations, sometimes one kingdom, sometimes two or even three being absorbed in one, they were at last united under Pepin in 748 only to make way for the accession of Charlemagne and his universal empire over the whole Gothic districts of Europe, with the exception of England and Spain.

With the Merovingian kings we have nothing to do; they have not left one single building from which to judge of the state of the art during their ascendency (they must have been Aryans *pur sang*)—nor can our history with propriety be said even to begin in France with Charlemagne. His accession marks the epoch towards which an archæologist may hope to trace back the incunabula of the style, but as yet no single building has been found in France which can with certainty be ascribed to his reign. The nave at Mortier en Der, the Basse Œuvre at Beauvais, and other buildings, may approach his age in antiquity, but we must travel down to the time of Capet (987) ere we find anything that can be considered as the germ of what followed.

This may in a great measure be owing to the confusion and anarchy that followed on the death of Charlemagne; and to the weakness of the kings, the disorganization of the people, and the ravages of the Northmen and other barbarians, from which it resulted that no part of France was in a less satisfactory position for the cultivation of the arts of peace than that which might have been expected to take the lead in all. Thus, while the very plunder of the central province enabled the Normans to erect and sustain a powerful state on the one side, and to adorn it with monuments which still excite our admiration, and the organization of the monks of Burgundy on the other hand promoted the cultiva-

tion of arts of peace to an extent hardly known before their time in Northern Europe, Central France remained incapable even of self-defence, and still more so of raising monuments of permanent splendour.

There must no doubt have been buildings in the round-arched Gothic style in this province, but they were few and insignificant compared with those we have been describing, either in the South or in Normandy and Burgundy. Even in Paris the great church of St. Germain des Prés, the burial-place of the earlier kings, and apparently the most splendid edifice of the capital, was not more than 50 ft. in width by 200 in length before the rebuilding of its chevet in the pointed style, and it possessed no remarkable features of architectural beauty. St. Geneviève was even smaller and less magnificent; and if there was a cathedral, it was so insignificant that it has not been mentioned by any contemporary historian.

Several of the provincial capitals probably possessed cathedrals of some extent and magnificence. All these, however, were found so unsuited to the splendid tastes of the 12th and 13th centuries, that they were pulled down and rebuilt on a more extended scale; and it is only from little fragmentary portions of village churches that we learn that the round Gothic style was really at one time prevalent in the province, and possessed features according to its locality resembling more or less those of the neighbouring styles. So scanty indeed are such traces, that it is hardly worth while to recapitulate here the few observations that might occur on the round Gothic styles as found within the limits of the province.[1]

This state of affairs continued down to the reign of Louis le Gros, 1108-1136, under whom the monarchy of France began to revive. This monarch, by his activity and intelligence restored to a considerable extent the authority of the central power over the then independent vassals of the crown. This was carried still further under the reign of his successor, Louis le Jeune, though perhaps more was owing to the abilities of the Abbé Suger than to either of these monarchs. He seems to have been one of those great men who sometimes appear at a crisis in the history of their country, to guide and restore what otherwise might be left to blind chance and to perish for want of a master mind. Under Philip Augustus the country advanced with giant strides, till under St. Louis it arrived at the summit of its power. For a century after this it sustained itself by the impulse thus given to it, and with scarcely an external sign of that weakness which betrayed itself in the rapidity with which the whole power of the

[1] The Church of St. Rémi at Rheims ought perhaps to be treated as an exception to this assertion: it has, however, been so much altered in more modern times as almost to have lost its original character. It nevertheless retains the outlines of a vast and noble basilica of the early part of the 11th century, presenting considerable points of similarity to those of Burgundy.

nation crumbled to pieces under the first rude shock sustained at Crecy from the hand of Edward III.

More than a century of anarchy and confusion followed this great event, and perhaps the period of the English wars may be considered as the most disastrous of the whole history of France, as the previous two centuries had been the most brilliant. When she delivered herself from these troubles, she was no longer the same. The spirit of the middle ages had passed away. The simple faith and giant energy of the reigns of Philip Augustus and St. Louis were not to be found under Louis IX. and his inglorious successors. With the accession of Francis I. a new state of affairs succeeded, to the total obliteration of all that had gone before, at least in art.

The improvement of architecture, keeping pace exactly with the improved political condition of the land, began with Louis le Gros, and continued till the reign of Philip of Valois. It was during the two centuries comprised within this period that pointed architecture was invented, which became the style, not only of France, but of all Europe during the middle ages; and is, *par excellence*, the Gothic style of Europe. The cause of this pre-eminence is to be found partly in the accident of the superior power of the nation to which the style belonged at this critical period, but more to the artistic feelings of their race; and also because the style was found the most fitted to carry out certain religious forms and decorative principles which were prevalent at the time, and which will be noted as we proceed.

The style therefore with which this chapter is concerned is that which commenced with the building of the Abbey of St. Denis, by Suger, A.D. 1144, which culminated with the building of the Sainte Chapelle of Paris by St. Louis, 1244, and which received its greatest amount of finish at the completion of the choir of St. Ouen at Rouen, by Mark d'Argent, in 1339. There are pointed arches to be found in the central provinces as well as all over France before the time of the Abbé Suger, but they are only the experiments of masons struggling with a constructive difficulty, and the pointed style continued to be practised for more than a century and a half after the completion of the choir of St. Ouen, but no longer in the pure and vigorous style of the earlier period. Subsequent to this it resembles more the efforts of a national style to accommodate itself to new tastes and new feelings, and to maintain itself by ill suited arrangements against the innovation of a foreign style which was to supersede it, the influence of which was felt long before its definite appearance.

The sources from which the pointed arch was taken have been more than once alluded to in the preceding pages. It is a subject on which a great deal more has been said and written than was at all called for by the real importance of the question. Scarcely anything was done in pointed architecture which had not already been done

in the round-arch styles. Certainly there is nothing which could not have been done, at least nearly as well, and many things much better, by adhering to the complete instead of to the broken arch. The coupling and compounding of piers had already been carried to great perfection, and the assignment of a separate function to each shaft was already a fixed principle. Vaulting too was nearly perfect, only that the main vaults were either hexapartite or six-celled, instead of quadripartite, as they afterwards became; an improvement certainly, but not one of much importance. Ribbed vaulting was the greatest improvement which the Mediaeval architects made on the Roman vaults, giving not only additional strength of construction, but an apparent vigour and expression to the vault, which is one of the greatest beauties of the style. This system was in frequent use before the employment of the pointed arch. The different and successive planes of decoration were also one of the Mediaeval inventions which was carried to greater perfection in the round Gothic styles than in the pointed. Indeed, it is a fact, that except in window tracery, and perhaps in pinnacles and flying buttresses, there is not a single important feature in the pointed style that was not invented and in general use before its introduction. Even of windows, which are the important features of the new style, by far the finest are the circular or wheel windows, which have nothing pointed about them, and which always fit awkwardly into the pointed compartments in which they are placed. In smaller windows, too, by far the most beautiful and constructively appropriate tracery is that where circles are introduced into the heads of the pointed windows. But, after hundreds of experiments and expedients had been tried, the difficulty of fitting these circles into spherical triangles remained, and the unpleasant form to which their disagreement inevitably gave rise, proved ultimately so intolerable, that the architects were forced to abandon the beautiful constructive geometric tracery for the flowing or flamboyant form: and this last was so ill-adapted to stone construction, that the method was at last abandoned altogether. These and many other difficulties would have been avoided, had the architects adhered to the form of the unbroken arch; but on the other hand it must be confessed that the pointed forms gave a facility of arrangement which was an irresistible inducement for its adoption; and especially to the French, who always affected height as the principal element of architectural effect, it afforded an easy means for the attainment of this object. Its greatest advantage was the ease with which any required width could be combined with any required height. With this power of adaptation the architect was at liberty to indulge in all the wildness of the most exuberant fancy, hardly controlled by any constructive necessities of the work he was carrying out. Whether this was really an advantage or not, is not quite clear. A tighter rein on the fancy of the designer would certainly have produced a purer and severer style, though we

might have been deprived of some of those picturesque effects which charm so much in Gothic cathedrals, especially when their abruptness is softened by time and hallowed by associations. We must, however, in judging of the style, be careful to guard ourselves against fettering our judgment by such associations. There is nothing in all this that might not have been as easily applied to round as to pointed arches, and indeed it would certainly have been so applied, had any of the round-arched styles arrived at maturity.

Far more important than the introduction of the pointed arch was the invention of painted glass, which is really the important formative principle of Gothic architecture, so much so, that there would be more meaning in the name, if it were called the "*painted-glass style,*" instead of the pointed-arch style.

In all the earlier attempts at a pointed style, which have been alluded to in the preceding pages, it was confined to the vaults, pier arches, and merely constructive parts, while the decorative parts, especially the windows and doorways, were still round-headed. The windows were small, and at considerable distances, a very small surface of openings filled with plain white glass being sufficient to admit all the light that was required for the purposes of the building, while more would have destroyed the effect by that garish light that is now so offensive in most of our great cathedrals. As soon, however, as painted glass was introduced, the state of affairs was altered: the windows were first enlarged to such an extent as was thought possible without endangering the safety of the painted glass, with the imperfect means of supporting it then known.[1] All circular plans were abandoned, and polygonal apses and chapels of the chevet introduced; and lastly, the windows being made to occupy as nearly as was possible the whole of each face of these polygons, the lines of the upper part of the window came internally into such close contact with the lines of the vault, that it was almost impossible to avoid making them correspond the one with the other. Thus the windows took the pointed form already adopted for constructive reasons in the vaults. This became even more necessary when the fashion was introduced of grouping two or three simple windows together so as to form one; and when those portions of wall which separated these windows one from the other had become attenuated into mullions, and the upper part into tracery, until in fact the entire wall was taken up by this new species of decoration.

So far as internal architecture is concerned, the invention of painted glass was perhaps the most beautiful ever made. The painted slabs of the Assyrian palaces are comparatively poor attempts at the same

[1] These generally consisted of strong iron bars, wrought into patterns in accordance with the design painted on the glass.

effect. The hieroglyphics of the Egyptians were far less splendid and complete; nor can the painted temples of the Greeks, nor the mosaics and frescos of the Italian churches, be compared with the brilliant effect and party-coloured glories of the windows of a perfect Gothic cathedral, where the whole history of the Bible is written in the hues of the rainbow by the earnest hand of faith.

Unfortunately no cathedral retains its painted glass in anything like such completeness; and so little is the original intention of the architects understood, that we are content to admire the plain surface of white glass, and to consider this as the appropriate filling of traceried windows, just as our fathers thought that whitewash was not only the purest, but the best mode of decorating a Gothic interior. What is worse, modern architects, when building Gothic churches, fill their sides with large openings of this glass, not reflecting that a gallery of picture-frames without the pictures is after all a sorry exhibition; but so completely have we lost all real feeling for the art, that its absurdity does not strike us now.

It will, however, be impossible to understand what follows, unless we bear in mind that all windows in all churches erected after the middle of 12th century were at least intended to be filled with painted glass, and that the principal and guiding motive in all the changes subsequently introduced into the architecture of the age was to obtain the greatest possible space and the best arranged localities for its display.

Freemasonry.

The institution of freemasonry is another matter on which, like the invention of the pointed arch, a great deal more has been said than the real importance of the subject at all deserves. Still this subject has been considered so all-important, that it is impossible to pass it over here without some reference, if only to explain why so little notice will be taken of its influence, or of the important names which are connected with it.

Before the middle of the 12th and beginning of the 13th century, it is generally admitted that the corporation of freemasons was not sufficiently organized to have had much influence on art. At that time it is supposed to have assumed more importance, and to have been the principal guiding cause in the great change that then took place in architecture. Those who adopt this view, forget that at that time all trades and professions were organized in the same manner, and that the guild of masons differed in no essential particulars from those of the shoemakers or hatters, the tailors or vintners—all had their masters and past-masters, their wardens, and other officers, and were recruited from a body of apprentices, who were forced to undergo

years of probationary servitude before they were admitted to practise their arts.

But though their organization was the same, the nature of their pursuits forced one very essential distinction upon the masons, for inasmuch as all the usual trades were local, and the exercise of them confined to the locality where the tradesmen resided, the builders were, on the contrary, forced to go wherever any great work was to be executed.

Thus the shoemakers, tailors, bakers, and others, lived among their customers, and just in such numbers as were required to supply their usual recurring wants. It is true the apprentices travelled to learn their profession and see the world before settling down, but after that each returned to his native town or village, and there established himself among his friends or relatives, where he was known by all, and where he at once took his station without further trouble.

With the mason it was different; his work never came to him, nor could it be carried on in his own house: he was always forced to go to his work, and when any great church or building was to be erected in any town which was beyond the strength of the ordinary tradesmen of the place to undertake, masons were sent for, and flocked from all the neighbouring towns and districts to obtain employment.

At a time when writing was almost unknown among the laity, and not one mason in a thousand could either read or write, it is evidently essential that some expedient should be hit upon by which a mason travelling to his work might claim the assistance and hospitality of his brother masons on the road, and by means of which he might take his rank at once on reaching the lodge, without going through tedious examinations or giving practical proof of his skill. For this purpose a set of secret signs was invented, which enabled all masons to recognise one another as such, and by which also each man could make known his grade to those of similar rank, without further trouble than a manual sign, or the utterance of some recognised password. Other trades had something of the same sort, but it never was necessary for them to carry it either to the same extent nor to practise it so often as the masons, they being for the most part resident in the same place, and knowing each other personally. The masons, who thus from circumstances became more completely organized than other trades, were men skilled in the arts of hewing and setting stones, acquainted with all recent inventions and improvements connected with their profession, and capable of carrying out any work that might be entrusted to them, though they never seem to have attempted to exercise their calling except under the guidance of some superior personage, either a bishop or abbot, or an accomplished layman. In the time of which we are speaking, which was the great age of Gothic art, there is

no instance of a mason of any grade being called upon to furnish the design as well as to execute the work.

It may appear strange to us in the 19th century, among whom the great majority really do not know what true art means, that six centuries ago eminent men, not specially educated to the profession of architecture, and qualified only by talent and good taste, should have been capable of such vast and excellent designs; but a little reflection will show how easy it is to design when art is in the right path.

If for instance we take a cathedral, any one of a series—let us say of Paris; when completed, or nearly so, it was easy to see that though an improvement on those which preceded it, there were many things in its construction or design which might have been better. The side-aisles were too low, the gallery too large, the clerestory not sufficiently spacious for the display of the painted glass, and so on. Let us next suppose the Bishop of Amiens at that period determined on the erection of his cathedral. It was easy for him or his master mason to make these criticisms, and also to perceive how these mistakes might be avoided; they could easily see where width might be spared, especially in the nave, and where a little additional height and a little additional length would improve the effect of the whole. During the progress of the Parisian works also some capitals had been designed, or some new form of piers adopted, which were improvements on preceding examples, and in general more confidence and skill would have been derived from experience in the construction of arches and vaults. All these of course would be adopted in the new cathedral, and without making drawings, guided only by general directions as to the plan and dimensions, the masons might proceed with the work, and, introducing all the new improvements as it progressed, they would inevitably produce a better result than any that preceded it, without any especial skill on the part either of the master-mason or his employer.

If a third cathedral were to be built after this, it would of course contain all the improvements made during the progress of the second and all the corrections which its results suggested, and thus, while the art was really progressive, it required neither great individual skill nor particular aptitude to build such edifices as we find.

In fine arts we have no illustration of this in modern times: but all our useful arts advance on the same principles, and lead consequently to the same results. In ship building, for instance, if we take a series of ships, from those in which Edward III. and his bold warriors crossed the channel to the great line-of battle ships now lying at anchor in our harbours, we find a course of steady and uninterrupted improvement from first to last. Some new method is tried; if it is found to succeed, it is retained; if it fails, it is dropped. Thus the general tendency constantly leads to progress and improvement. And, to con-

tinue the comparison a little further, this progress in the art is not attributable to one or more eminent naval architects. Great and important discoveries have no doubt been made by individuals, but in these cases we may generally assume that, the state of science being ripe for such advances, had the discovery in question not been made by one man, it soon would have occurred to some other.

The fact is, that in a useful art like that of ship-building, or in an art combining use and beauty like that of architecture—that is, when the latter is a real, living, national art—the progress made is owing, not to the commanding abilities of particular men, but to the united influence of the whole public. An intelligent sailor who discusses the good and bad qualities of a ship, does his part towards the advancement of the art of ship-building. So in architecture, the merit of any one admirable building, or of a high state of national art, is not due to one or to a few master minds, but to the aggregation of experience, the mass of intellectual exertion, which alone can achieve any practically great result. Whenever we see any work of man truly worthy of admiration, we may be quite sure that the credit of it is not due to an individual, but to thousands working together through a long series of years.

The pointed Gothic architecture of Germany furnishes a negative illustration of the view which we have taken of the conditions necessary for great architectural excellence. There the style was not native, but introduced from France. French masons were employed, who executed their work with the utmost precision, and with a perfection of masonic skill scarcely to be found in France itself. But in all the higher elements of beauty, the German pointed Gothic cathedrals are immeasurably inferior to the French. They are no longer the expression of the devotional feelings of the clergy and people, and are totally devoid of the highest order of architectural beauty.

The truth of the matter is, that the very pre-eminence of the great masonic lodges of Germany in the 14th century destroyed the art. When freemasonry became so powerful as to usurp to itself the designing as well as the execution of churches and other buildings, there was an end of true art, though accompanied by the production of some of the most wonderful specimens of stone cutting and of constructive skill that were ever produced. This, however, is "building," not architecture; and though it may excite the admiration of the vulgar, it never will touch the feelings of the true artist or man of taste.

This decline of true art had nowhere shown itself during the 13th century, with which we are concerned at present. Then architecture was truly progressive: every man and every class in the country lent their aid, each in his own department, and allworked together to produce those wonderful buildings which still excite our admiration. The

masons performed their parts, and it was an important one; but neither to them nor to their employers, such as the Abbé Suger, Maurice de Sully, Robert de Lusarches, or Fulbert of Chartres, is the whole merit to be ascribed, but to all classes of the French nation carrying on steadily a combined movement towards a well-defined end.

In the following pages, therefore, it will not be necessary to recur to the freemasons nor their masters—at least not more than incidentally—till we come to Germany. Nor will it be necessary to attempt to define who was the architect of any particular building. The names usually fixed upon by antiquaries after so much search are merely those of the master-masons or foremen of the works, who had nothing whatever to do with the main designs of the buildings.

CHAPTER IX.

FRENCH GOTHIC CATHEDRALS.

CONTENTS.

Paris — Chartres — Rheims — Amiens — Other Cathedrals — Later style — St. Ouen, Rouen.

The great difficulty in attempting to describe the architecture of France during the glorious period of the 13th century is really the *embarras de richesse*. There are even now some thirty or forty cathedrals of the first class in France, all owing their magnificence to this great age. Some of these, it is true, were commenced even early in the 12th, and many were not completed till after the 14th century; but all their principal features, as well as all their most important beauties, belong to the 13th century, which as a building epoch is perhaps the most brilliant in the whole history of architecture. Not even the great Thothmes era in Egypt, the age of Pericles in Greece, nor the great period of the Roman empire will bear comparison with the 13th century in Europe, whether we look to the extent of the buildings executed, their wonderful variety and constructive elegance, the daring imagination that conceived them, or the power of poetry and of lofty religious feelings that is expressed in every feature and in every part of them.

During the previous age almost all the greater ecclesiastical buildings were abbeys or belonged exclusively to monastic establishments—were in fact the sole property and built only for the use of the clergy, though the laity, it is true, were admitted to them but only on sufferance. They had no right to be there, and took no part in the ceremonies performed. In the 13th century however, almost all the great buildings were cathedrals, in the erection of which the laity bore the greater part of the expense and shared, in at least an equal degree in their property and purposes. In a subsequent age the parochial system went far to supersede even the cathedral, the people's church taking almost entirely the place of the priests' church, a step which was subsequently carried to its utmost length by the Reformation. Our present subject requires us to fix our attention on that stage of this great movement which gave rise to the building of the principal cathedrals throughout Europe from the 12th to the 15th century.

The transition from the round Gothic to the true pointed Gothic

style in the centre of France took place with the revival of the national power under the guidance of the great Abbé Suger, about the year 1144. In England it hardly appeared till the rebuilding of Canterbury Cathedral, under the guidance of a French architect, A.D. 1175; and in Germany it is not found till, at all events, the beginning of the 13th century, and can hardly be said to have taken firm root in that country till a century at least after it had been fairly established in France.

The development of particular features will be pointed out as we proceed; but no attempt will be made to arrange the cathedrals and great buildings in chronological order. Such an attempt would merely lead to confusion, as most of them took a century at least to erect—many of them two.

In France, as in England, there is no one great typical building to which we can refer as a standard of perfection—no Hypostyle Hall or Parthenon which combines in itself all the excellences of the style adopted: and we are forced therefore to cull from a number of examples materials for the composition, even in imagination, of a perfect whole. Germany has in this respect been more fortunate, possessing in Cologne Cathedral an edifice combining all the beauties ever attempted to be produced in pointed Gothic in that country. But even this is only an imitation of French cathedrals, erected by persons who admired and understood the details of the style, but were incapable of appreciating its higher principles. The great cathedrals of Rheims, Chartres, and Amiens, are all early examples of the style; and as they were erected nearly simultaneously, none of their architects were able to profit by the experience obtained in the others, they are consequently all more or less experiments in a new and untried style. The principal parts of the church of St. Ouen at Rouen, on the contrary, are of somewhat too late a date; and beautiful though it is, masonic perfection was then coming to be more considered than the expression either of poetry or of power.

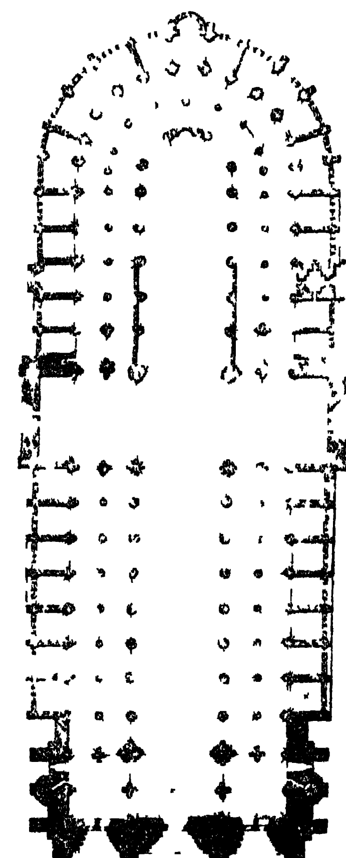
Still in Rheims Cathedral we have a building possessing so many of the perfections and characteristic beauties of the art, that it may almost serve as a type of the earlier style, as St. Ouen may of the later; and though we may regret the absence of the intermediate steps, except in such fragments as the Sainte Chapelle at Paris, still between them we may obtain a tolerably clear idea of the form to which French art aspired during its most flourishing age.

To avoid as far as may be possible the tediousness of repetition necessary, if the attempt were made, to describe each building separately, and at the same time not to fall into the confusion that must result from grouping the whole together, the most expedient mode will perhaps be, to describe first the four great typical cathedrals of Paris, Chartres, Rheims, and Amiens, and then to point out briefly the

principal resemblances and differences between those and the other cathedrals of France.

Of these four, that of Paris is the oldest, the foundation-stone having been laid 1163, and the work carried on with such activity by the bishop, Maurice de Sully, that the high altar was dedicated 1182, the interior completed 1208, and the west front finished about the year 1214.

The history of the cathedral of Chartres is not so easily traced. An important church was erected here by Bishop Fulbert in the beginning of the 11th century, of which building scarcely anything now remains but the piers of the western doors.



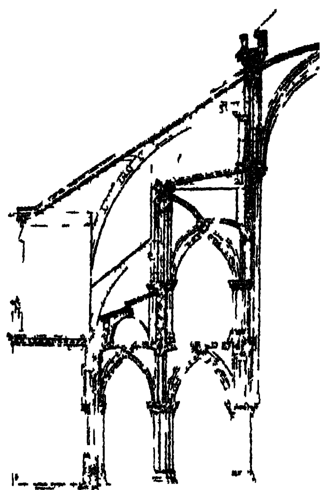
351. Plan of Cathedral of Notre Dame, Paris. From Chapuy, 'Moyen Age Monumental.' Scale 100 ft. to 1 in.

The building of the present church seems to have been commenced about a century after the completion of the older building, for the great western towers were in progress in the year 1145, and the new choir must have been commenced very shortly afterwards. Indeed, the greater part of the building belongs to the latter half of the 12th century, or very early in the 13th, but it was not completed till the year 1260.

The cathedral of Rheims was commenced in the year 1211, immediately after a fire which consumed the preceding building, and under the auspices of Archbishop Alberic de Humbert,—Robert de Coucy acting as trustee on the part of the laity. It was so far completed in all essential parts as to be dedicated in 1241.

Amiens Cathedral was commenced in 1220, and completed in 1257; but being partially destroyed by fire the year afterwards, the clerestory and all the upper parts of the church were rebuilt. The whole appears to have been completed, nearly as we now find it, about the year 1272. From this period to the building of the choir of St. Ouen, at Rouen, 1318-1339, there is a remarkable deficiency of great examples in France. The intermediate space is very imperfectly filled by the examples of St. Urbain at Troyes, St. Benigne at Dijon, and a few others. These are

just sufficient to show how exquisite the style then was, and what we have lost by almost all the cathedrals of France having been commenced simultaneously, and none being left in which the experience of their predecessors could be made available.



360. Section of Cathedral of Paris. From Viollet le Duc, 'Dict. d'Architecture.' Scale 50 ft. to 1 in.

Though the plans of these cathedrals differ to some extent, their dimensions are very nearly the same, that at—

Paris, covering about	64,108 feet
Chartres	68,260 "
Rheims	67,475
Amiens	71,208 "

These dimensions, though inferior to those of Cologne, Milan, Seville, and some other exceptional buildings, are still as large as those of any erected in the middle ages.

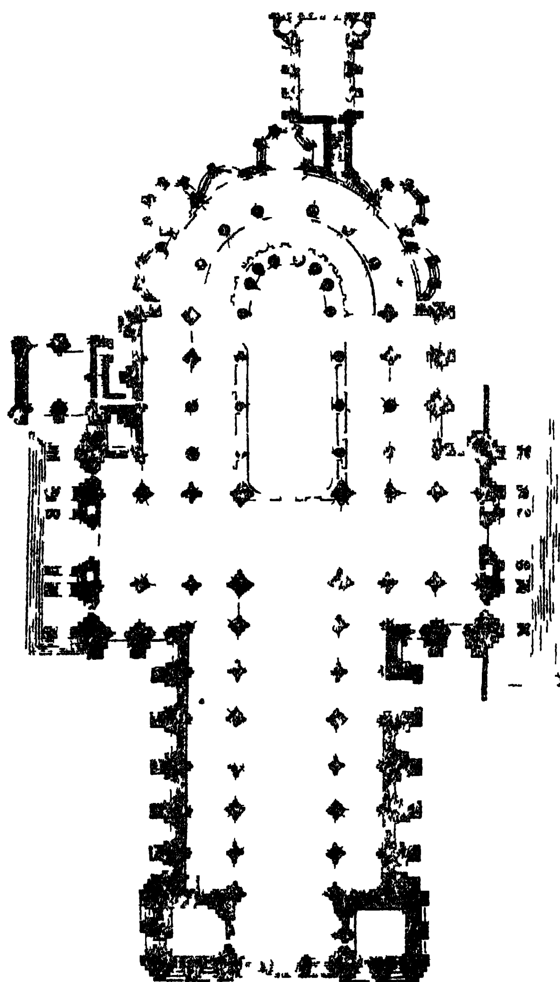
The cathedral of Paris was designed at a time when the architects had not obtained that confidence in their own skill which made them afterwards complete masters of the constructive difficulties of the design. As shown in the plan (woodcut No. 359), the points of support are far more numerous and are placed nearer to one another than is usually the case; and, as may be seen from the section, instead of two tall storeys, the height is divided into three, and made up, if I may so express it, of a series of cells built over and beside each, so as to obtain immense strength with a slight expenditure of materials.



361. External Elevation, Cathedral of Paris. From Gailhabaud. Scale 50 ft. to 1 in.

It must at the same time be confessed that this result was obtained with a considerable sacrifice of grandeur and simplicity of effect. Even before the building was completed the architects seem to have become aware of these defects; and as is shown in the woodcut (No. 361), the simple undivided windows of the clerestory were cut down so as to give them the greatest possible height and the roof of the upper gallery made flat to admit of this. Subsequently larger windows were introduced between the buttresses, with a view to obtaining fewer and larger parts, and also of course to admit of larger surfaces for painted glass. With all these

improvements the cathedral has not internally the same grandeur as the other three, though externally there is a very noble simplicity of outline, and appearance of solidity in the whole design. Internally it still retains, as may be seen from the plan, the hexapartite arrangement in its vaults over the central aisle, and the quadripartite in the side-aisles only. This causes the central vault to overpower those on each side, and makes not only the whole church, but all the parts, look much smaller than would have been the case had the roof been cut into smaller divisions as was always subsequently the case.

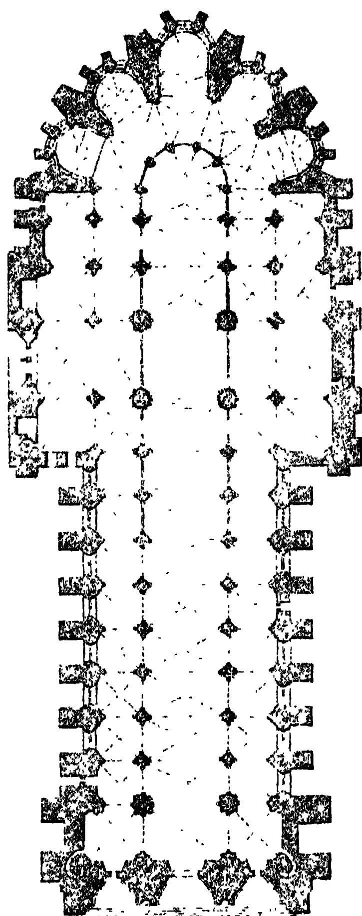


Plan of Chartres Cathedral. From Chapuy. Scale 100 ft. to 1 in.

At Chartres most of these defects were avoided: there is there a simplicity of design and a grandeur of conception seldom surpassed. The great defect of proportion in that building arises from the circumstance that the architect included the three aisles of the old church in the central aisle of the present one. At that time the architects had not attained that daring perfection of execution which afterwards enabled them to carry the vaults to so astonishing a height. At Chartres the proportion of width to height is nearly as 1 to 2, the breadth of the central nave being nearly 50 ft., and the height only 106. With the great length of such buildings found in England such proportions were tolerable, but in the shorter French cathedrals it gives an appearance of depression

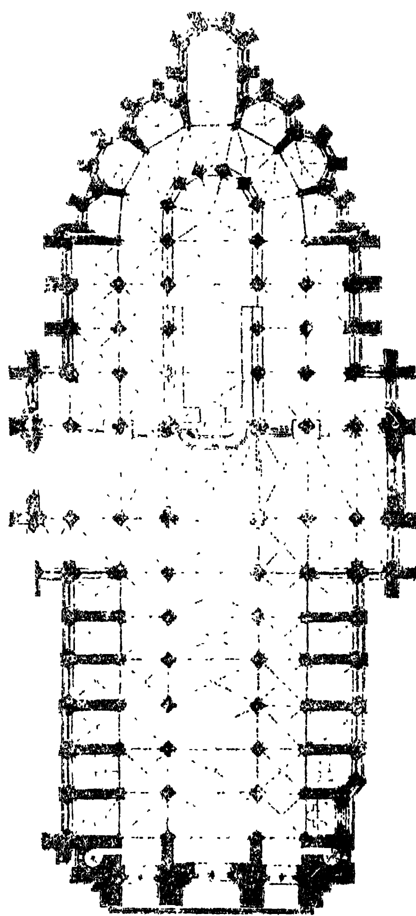
which is far from being pleasing; and as the painted glass has been almost entirely removed from the nave, a cold glare now pervades the whole, which renders it extremely difficult to form an opinion of the original effect.

Most of those defects were avoided by the builders of the cathedral at Rheims, and nothing can exceed the simple beauty and perfection



363. Plan of Rheims Cathedral. Scale 100 ft. to 1 in.

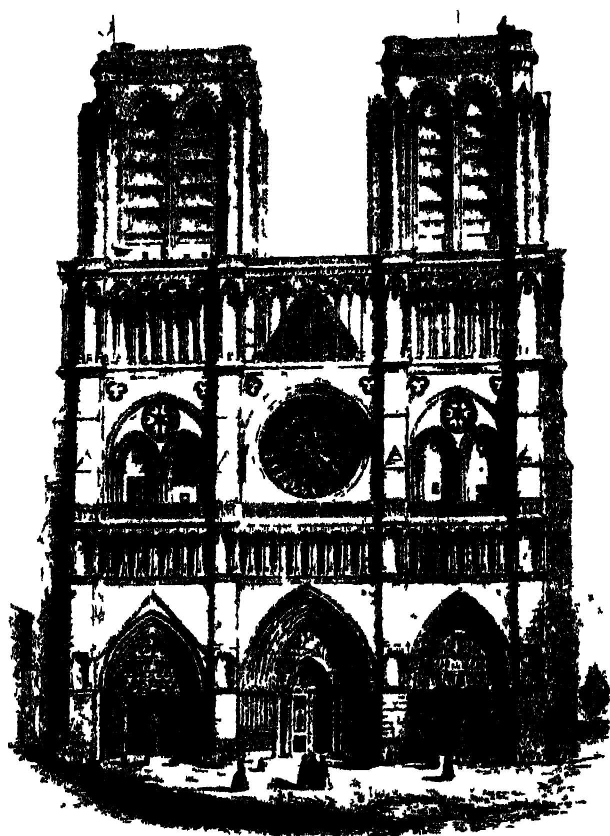
From Chapuy.



364. Plan of Amiens Cathedral. Scale 100 ft. to 1 in.

of the arrangement of the plan, as well as of the general harmony of all the parts. The proportion, both in width and height, of the side-aisles to the central nave, and the absence of side-chapels and of any subsequent additions, render the nave one of the most perfect in France. The mode in which the church expands as you approach the choir, and the general arrangement of the eastern part, as shown in the plan (woodcut No. 363), are equally excellent, and are surpassed by no build-

ing of the middle ages. The piers are perhaps a little heavy, and their capitals want simplicity; the triforium is if anything too plain; and at the present day the effect of light in the church is in one respect reversed, inasmuch as the clerestory retains its painted glass, which in the side-aisles has been almost totally destroyed, making the building appear as though lighted from below — an arrangement highly destructive of architectural beauty. Notwithstanding all this, it far surpasses those buildings which preceded it, and is only equalled by Amiens and those completed afterwards, in which advantage was taken of the introduction just at the time of their erection of complicated window-tracery, enabling the builders to dispense almost wholly with solid walls, and to make their clerestories at least one blaze of gorgeous colouring—the glass being disposed in the most beautiful forms, and framed in stone, so as to render it, notwithstanding its extent, still an integral part of the whole building. In this respect the great height of the clerestory at Amiens, and its exceeding lightness, give it an immense advantage



View of the Façade of the Cathedral at Paris. From Chapuy.

over the preceding churches, although this is gained at the sacrifice, to a certain extent, of the sober and simple majesty of the earlier examples. There is nevertheless so much beauty and so much poetry in the whole effect that it is scarcely fair to apply the cold rules of criticism to so fanciful and fascinating a creation.



366. North-West View of the Cathedral at Chartres. From Chapuy.

Externally the same progress is observable in these four cathedrals as in their interior arrangements. The façade of the cathedral at Paris (woodcut No. 365) is simple in its outline, and bold and majestic in all its parts, and though perhaps a little open to the charge of heaviness, it is admirably adapted to its situation, and both in design and proportion fits admirably to the church to which it is attached. The flanks too of the building, as originally designed, must have been singularly

beautiful, for, though sadly disfigured by the insertion of chapels, which obliterate the buttresses and deprive it of that light and shade so indispensable to architectural effect, there yet remains a simplicity of outline, and an elegance in the whole form of the building, that has not often been excelled in Gothic structures.

The lower part of the façade at Chartres (woodcut No. 366) is older than that of Paris, and so plain (it might almost be called rude) as hardly to admit of comparison with it; but its two spires, of different ages, are unsurpassed in France. Even in the southern or older of the two, which was probably finished in the 12th century, we find all the elements which were so fully developed in Germany and elsewhere in the following centuries. The change from the square to the octagon, and from the perpendicular part to the sloping sides of the spire, are managed with the most perfect art, and were not the effect it produces destroyed by the elaborate richness of the other spire, it would be considered one of the most beautiful of its class. The new or northern spire was erected by Jean Texier between the years 1507 and 1514, and notwithstanding the lateness of its date, it must be considered as on the whole the most beautiful spire on the continent of Europe — certainly far surpassing in elegance of outline and appropriateness of design those at Strasburg, Vienna, or even Antwerp. If it has rivals it is that at Friburg, or those designed for the cathedral at Cologne, but were its details of the same date, it can hardly be doubted that it would be considered the finest spire of the three.[1]



[illegible] Buttress at Chartres. From Batissier's 'Histoire de l'Art.'

The transepts at Chartres have more projection than those of Paris and were originally designed with two towers to each, and two others were placed one on each side of the choir; so that the cathedral would have had eight towers altogether if completed; but none except the western two have been carried higher than the springing of the roof; and though they serve to vary the outline, they do not relieve, to the extent they might have done, the heavy massiveness of the roof. In other respects the external beauty of the cathedral is somewhat injured by the extreme heaviness of the flying buttresses, which were deemed necessary to resist the thrust of the enormous vault of the central nave; and, though each is in itself a massive and beautiful object, they crowd the clerestory to an inconvenient extent, the effect of which is also somewhat injured

[1] The height of the old spire is 342 ft. 6 in. with the cross; of the new, 371 ft.

by the imperfect tracery of the windows, each of which more resembles separate openings grouped together than one grand and simple window.

The progress that took place between this building and that at Rheims is more remarkable on the exterior than even in the interior. The façade of that church, though small as compared with some others, was perhaps the most beautiful structure produced during the middle ages; and, though it is difficult to institute a rigorous comparison between things so dissimilar, there is perhaps no façade, either of ancient or of modern times, that surpasses it in beauty of proportion and details, or in fitness for the purpose for which it was designed. Nothing can exceed the majesty of its deeply-recessed triple portals, the beauty of the rose window that surmounts them, or the elegance of the gallery that completes the façade and serves as a basement to the light and graceful towers that crown the composition. These were designed to carry spires, no doubt as elegant and appropriate as themselves, but this part of the design was never completed. The beautiful range of buttresses which adorn the flanks of the building are also perhaps the most beautiful in France, and carry the design of the façade back to the transepts. These are late and less ornate than the western front, but are still singularly beautiful, though wanting the two towers designed to complete them. On the intersection of the nave with the transepts there rose at one time a spire of wood, probably as high as the intended spires of the western towers, and one still crowns the ridge of the chevet, rising to half the height above the roof that the central one was intended to attain. Were these all complete we should have the beau idéal externally of a French cathedral, with one central and two western spires, and four towers at the ends of the transepts. All these perhaps never were fully completed in any instance, though the rudiments of the arrangement are found in almost all the principal French cathedrals. In some, as for instance at Rouen, it was carried out in number, though at such different periods and of such varied design as to destroy that unity of effect essential to perfect beauty.


Buttresses at Rheims. From Chapuy.

The external effect of Amiens may be taken rather as an example of the defects of the general design of French cathedrals than as an illustration of their beauties. The western façade presents the same general features as those of Paris and Rheims, but the towers are so

small in proportion to the immense building behind as to look mean and insignificant, while all the parts are so badly put together as to destroy in a great measure the effect they were designed to produce. The northern tower is 223 ft. high, the southern 205; both therefore are higher than those at York, but instead of being appropriate and beautiful adjuncts to the building they are attached to, they only serve in this instance to exaggerate the gigantic incubus of a roof, 208 ft. in height, which overpowers the building it is meant to adorn.

The same is the case with the central spire, which, though higher than that at Salisbury, being 422 ft high from the pavement, is reduced from the same cause to comparative insignificance, and is utterly unequal to the purpose of relieving the heaviness of outline for which this cathedral is remarkable. The filling up of the spaces between the buttresses of the nave with chapels prevents the transepts from having their full value, and gives an awkward fulness to the entire design.

All French cathedrals are more or less open to these objections, and are deficient in consequence of that exquisite variety of outline and play of light and shade for which the English examples are so remarkable; but it still remains a question how far the internal loftiness and the glory of their painted glass compensate for these external defects. The truth perhaps would be found in a mean between the two extremes, which has not unfortunately been attained in any one example.

Apart from the character imparted to the buildings by mass and beauty of outline, we must look closely at the details to discover how far the general effect was necessarily sacrificed for particular purposes.

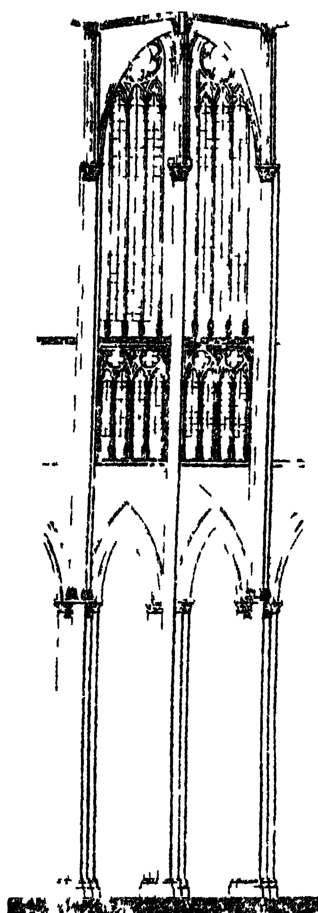
What painted glass was to the interior of a French cathedral, sculpture was to the exterior. Almost all the arrangements of the façade were modified mainly to admit of its display to the greatest possible extent. The three great cavernous porches of the lower part would be ugly and unmeaning in the highest degree without the sculptures that adorn them. The galleries above are mere ranges of niches as unmeaning without their statues as the great mullioned windows without their "storied panes." In such lateral porches too, as those for instance at Chartres, the architecture is wholly subordinate to the sculpture, and in a perfect cathedral of the 13th century the buttresses, pinnacles, even the gargoyles, every "coin of vantage," tells its tale by some image or representation of some living thing, giving meaning and animation to the whole. The cathedral thus became an immense collection of sculptures, containing not only the whole history of the world as then known and understood, but also of an immense number of objects representing the art and science of the middle ages. Thus the great cathedrals of Chartres and Rheims even

now retain some 5000 figures, scattered about or grouped together in various parts, beginning with the history of the creation of the world and all the wondrous incidents of the 1st chapter of Genesis, and thence continuing the history through the whole of the Old Testament. In these sculptures the story of the redemption of mankind is told, as set forth in the New, with a distinctness, and at the same time with an earnestness, almost impossible to surpass. On the other hand, ranges of statues of kings of France and other popular potentates carry on the thread of profane history to the period of the erection of the cathedral itself. In addition to these we have, interspersed with them, a whole system of moral philosophy, as illustrated by the virtues and the vices, each represented by an appropriate symbol, and the reward or punishment its invariable accompaniment. In other parts are shown all the arts of peace, every process of husbandry in its appropriate season, and each manufacture or handicraft in all its principal forms. Over all these are seen the heavenly hosts with saints, angels, and archangels. All this is so harmoniously contrived and so beautifully expressed, that it becomes a question even now whether the sculpture of these cathedrals does not excel the architecture.

In the middle ages, when books were rare, and those who could read them rarer still, this sculpture was certainly most valuable as a means of popular education; but, as Victor Hugo beautifully expresses it, "Ceci tuera cela; le livre tuera l'Eglise." The printing-press has rendered all this of little value to the present generation, and it is only through the eyes of the artist or the antiquary that we can even dimly appreciate what was actual instruction to the less educated citizens of the middle ages, and the medium through which they learned the history of the world, or heard the glad tidings of salvation conveyed from God to man. All this, few, if any, can fully enter into now; but without feeling it to at least some extent, it is in vain to attempt to appreciate these wonderful buildings. In the middle ages, the sculpture, the painting, the music of the people were all found in the cathedrals, and there only. Add to this their ceremonies, their sanctity, especially that conferred by the relics of saints and martyrs which they contained – all these things made these buildings all in all to those who erected and to those who worshipped in them.

The cathedral of Beauvais is generally mentioned in conjunction with that of Amiens, and justly so, not only in consequence of its local proximity, and from its being so near it in date, but also from a general similarity in style. Beauvais is in fact an exaggeration of Amiens, and shows defects of design more to be expected in Germany than in France. It was commenced five years later than Amiens, or in 1225, and the works were vigorously pursued between the years 1249 and 1267, though the dedication did not take place till 1272. The architects,

in their rivalry of their great neighbour, seem to have attempted more than they had skill to perform, for the roof fell in in 1284, and when rebuilt, additional strength was given by the insertion of another pier between every two of those in the old design, which served to exaggerate the apparent height of the pier arches. Emboldened by this, they seem to have determined to carry the clerestory to the unprecedented height of 150 ft., or about three times the width, measuring from the centre of one pier to that of the next. Thus, with a very long nave, a very acute vault, wide pier spaces, and bold massive supports, might have been not only tolerable, but sublime; but as this cathedral wants all these qualities the effect now is only that of a most extraordinary masonic *tour de force*, which, though productive of considerable astonishment among the gaping vulgar, is defective in taste and by no means pleasing.





Bay of Nave of Beauvais Cathedral. No scale.

These defects moreover were considerably increased by the late period at which the greater part of the cathedral was built. The south transept was commenced only in 1500, the northern one thirty years later, and was only finished in 1537; but even this hardly gives the date of the details, for in 1555 the architects of the building being seized with a desire of rivalling the dome of St. Peter's at Rome, which was then the object of universal admiration, undertook the construction of a spire on the intersection of the transepts, which they completed in thirteen years, but which stood only five years from that time, having fallen down on the day of the Ascension in the year 1573. This accident so damaged the works under it as to require considerable reconstruction, which is what we now see. This spire, of which the original drawings still exist, was 486 ft. in height; and although, as might be expected from the age in which it was erected, not of the purest design, must still have been a very noble and beautiful object, hardly inferior to that of Chartres, which was built only half a century earlier.

Taken altogether, the cathedral of Beauvais may be considered as

an example of that "vaulting ambition that o'erleaps itself." Every principle of Gothic art is here carried to an extreme which destroys the object with which it was designed, and not only practically has caused the ruin of the building and prevented its completion, but has so far

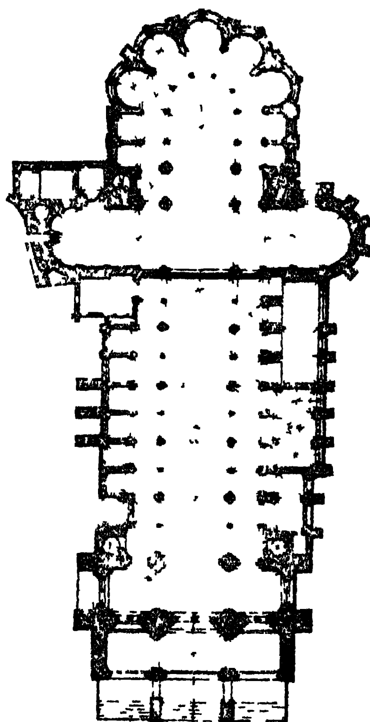


270. Doorway, South Transept, Beauvais. From Chapuy.

destroyed its artistic effect as to make it an example of what should be avoided rather than of what should be followed. It has all that want of repose and solidity which has often been made the reproach of Gothic architecture. Notwithstanding its size, it has no majesty:

and though it has stood so long, it has a painful appearance of instability: its whole construction looks like props applied to prevent its falling, rather than, as in the earlier buildings, suggesting additional strength and insuring durability. Even its details, as shown in the woodcut No. 370, representing one of the transepts, show an attenuation and meagreness very unusual in French architecture, and which, though graceful, have neither the power of the earlier nor the richness characteristic of contemporary buildings.

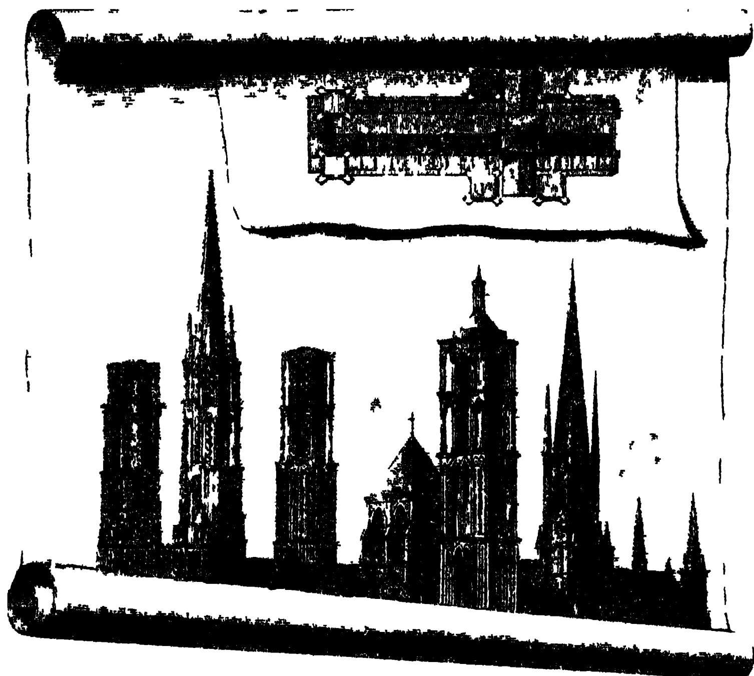
The cathedral of Noyon is an earlier example, and one of the best and most elegant transition specimens in France, having been commenced about the year 1137, and completed as we now see it, in 1167 Here the circular arch had not entirely disappeared, which was owing to its early date, and to its situation near the German border, and its connection with the see of Tournay, with which it was long united. Like the sister church at that place, it was triapsal, which gave it great elegance of arrangement. The one defect of this form seems to be, that it does not lend itself easily to the combination of towers which were then so much in vogue



371 Plan of Cathedral at Noyon From Ramée's 'Monographie' Scale 100 ft to 1 in.

In singular contrast to this is the neighbouring cathedral of Laon, one of the very few in France which have no chevet. It terminates with a square east end, like an English church, except that it has there a great circular window only instead of the immense wall of glass usually adopted in this country. In style it more resembles the cathedral of Paris than any other, though covering less ground and smaller in all its features. Its great glory is its crowning group of towers. The two western (with the exception of their spires) and the two at the end of the northern transept are complete. On the southern side only one has been carried to its full height, and the central lantern is now crowned by a low pyramidal roof instead of the tall spire that must once have adorned it: but even as they now are, the six that remain whether seen from the immediate neighbourhood of the

building, or from the plain below—for it stands most nobly on the flat top of a high isolated hill—have a highly picturesque and pleasing effect, and notwithstanding the rudeness of some of its details, and its deficiency in sculpture, it is in many respects one of the most interesting of the cathedrals of France.

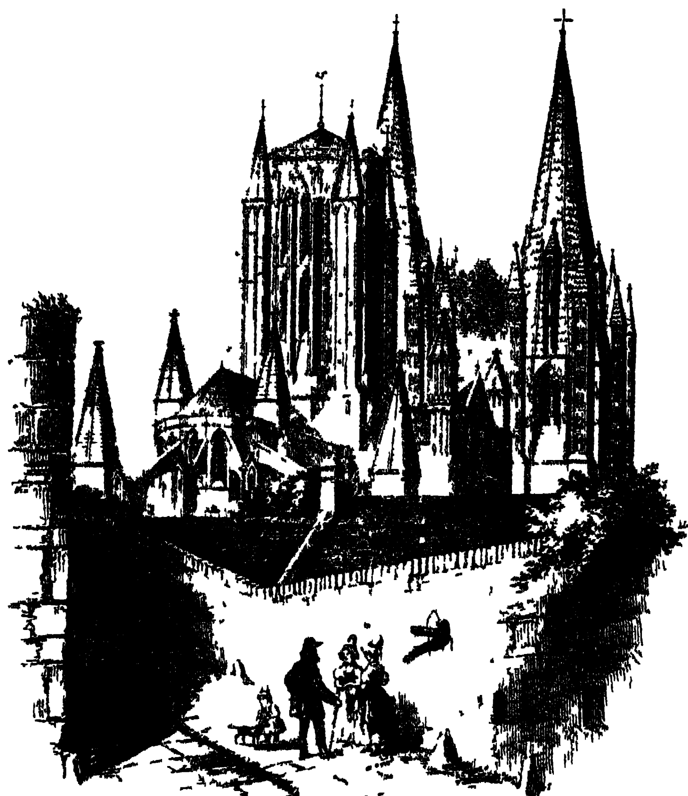


372. Spires of Laon Cathedral. From Du Sommerard.

One of the earliest of the complete pointed Gothic churches of France is that of Coutances (woodcut No. 373), the whole of which belongs to the first half of the 13th century, and though poor in sculpture, makes up for this to some extent by the elegance of its architectural details, which are unrivalled or nearly so in France.

Externally it possesses two western spires, and one octagonal lantern over the intersection of the nave and transept, which, both for beauty of detail and appropriateness, is the best specimen of its class, and only wants the crowning spire to make this group of towers equal to anything on this side of the Channel.

Notre Dame de Dijon is another example of the same early and elegant age, but possessing the Burgundian peculiarity of a deeply recessed porch or narthex, surmounted by a façade of two open galleries, one over the other, exactly in the manner of the churches of Pisa and Lucca of the 11th and 12th centuries, of which it may be



View of Cathedral at Coutances. From Transactions of Institute of British Architects.

considered an imitation. It is, however, as unsatisfactory in pointed Gothic, even with the very best details, as it is in the pseudo-classical style of Pisa, forming in either case a remarkably unmeaning mode of decoration.

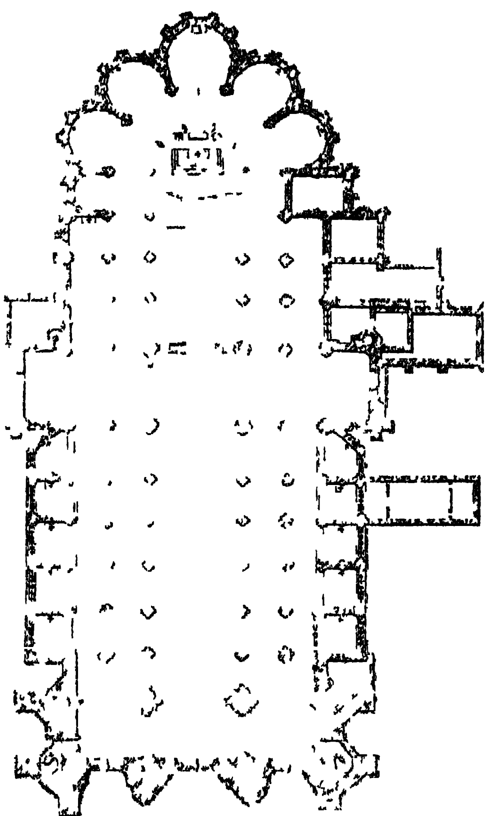


Lady Chapel, Auxerre. From Chapuy.

The cathedrals of Sens and Auxerre are pure examples of pointed architecture. The latter (A.D. 1213) internally rivals perhaps even Coutances. Nothing can be more elegant than the junction of the lady chapel here with the chevet; for though this is almost always pleasingly arranged, the design has been unusually successful in this instance. The two slender shafts, shown in the woodcut No. 374, just

suffice to give it pre-eminence and dignity, without introducing any feature so large as to disturb the harmony of the whole.

In the great church at St. Quentin, the five chapels of the chevet have each two pillars, arranged similarly to those of the lady chapel at Auxerre; and though the effect is rich and varied, the result is not quite so happy as in this instance. Taken altogether, however, few chevets in France are more perfect and beautiful than this almost unknown example.



375. Plan of Cathedral at Troyes. From Arnaud, 'Voyage dans le Département de l'Aube.' Scale 100 ft. to 1 in.

The cathedral of Troyes, commenced in 1206, and continued steadily for more than three centuries, is one of the few in France designed originally with five aisles and a range of chapels. The effect, however, is far from satisfactory. The great width thus given makes the whole appear low, and the choir wants that expansion and dignity which is so pleasing at Rheims and Chartres. Still the details and design of the earlier parts are good and elegant, and the west front (woodcut No. 376), though belonging wholly to the 16th century, is one of the most pleasing specimens of flamboyant work in France, being rich without exuberance, and devoid of the bad taste that sometimes disfigures works of this class and age.

The cathedral at Soissons is one of the most pleasing of all these churches. Nothing can surpass the justness of the proportions of the central and side-aisles both in themselves and to one another. Though the church is not large, and principally of that age—the latter half of the 13th century—in which the effect depended so much on painted glass, now destroyed or disarranged, it still deserves a place in the first rank of French cathedrals.

The two cathedrals of Toul and Tours present many points of great beauty, but their most remarkable features are their western façades, both of late date, each possessing two towers terminating in octagonal lanterns, with details verging on the style of the Renaissance, and yet so Gothic in design and so charmingly executed as almost to induce the belief, in spite of the fanciful extravagance which it displays, that the architects were approaching to something new and beautiful when the mania for classical details overtook them.

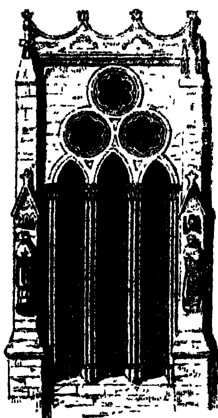


76 Façade of Cathedral at Troyes From Arnaud

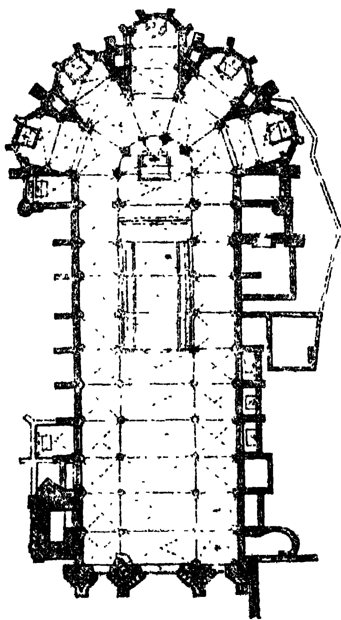
The two cathedrals of Limoges and Dijon belong to the latter half of the 13th century, and will consequently when better known fill a gap painfully felt in the history of the art.

It would be tedious to enumerate all the great cathedrals of the country, or to attempt to describe their peculiarities; but we must not omit all mention of such as Lisieux, remarkable for its beautiful façade, and Evreux, for the beauty of many of its parts, though the whole is too much a patchwork to produce an entirely pleasing effect. Nevers, too,

is remarkable as being one of the only two double-apse cathedrals in France, Besançon being the other. At Nevers this was owing to the high altar having been originally at the west, a defect felt to be intolerable in the 16th century, when the church was rebuilt, but which was done without destroying the old sanctuary. Bordeaux, already mentioned for its noble nave without aisles, possesses a chevet worthy of it, and two spires of great beauty at the ends of the transepts, the only spires so placed, I think, in France. Autun has a spire on the intersection of the nave with the transepts as beautiful as anything of the same class elsewhere. The cathedral of Lyons is interesting, as showing how hard it was for the Southern people of France to shake off their old style and adopt that of their Northern neighbours. With much grandeur and elegance of details, it is still so clumsy in design, that neither the whole nor any of its parts can be considered as satisfactory. The windows, for instance as shown in the woodcut (No. 377), look more like specimens of the carpenter's Gothic of modern times than examples of the art of the middle ages.

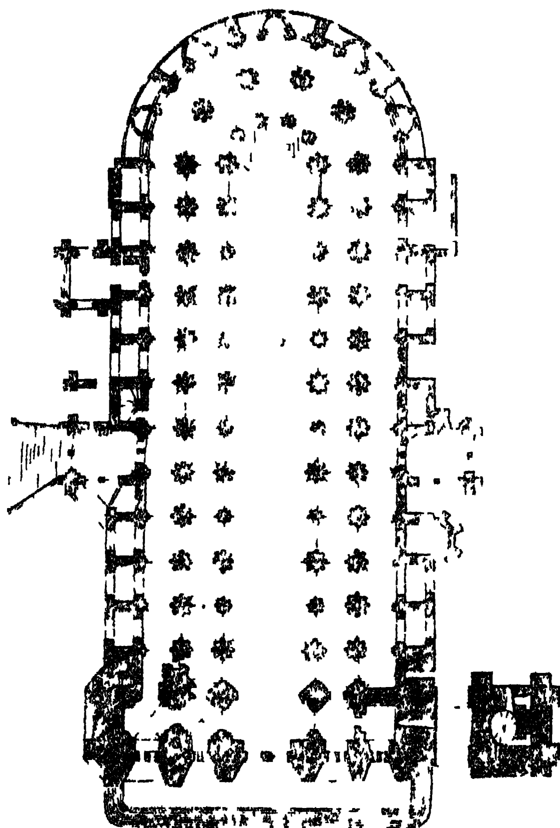

. Window of Cathedral at Lyons. From Peyre, 'Manuel de l'Architecture.'

There still remains to be mentioned the cathedral at Rouen. This remarkable building possesses parts belonging to all ages, and exhibits most of the beauties, as also, it must be confessed, most of the defects of each style followed. It was erected with a total disregard to all rule, yet so splendid and so picturesque that we are almost driven to the wild luxuriance of nature to find anything to which we can compare it. Internally its nave, though rich, is painfully cut up into small parts. The undivided piers of the choir, on the contrary, are too simple for their adjuncts. Externally, the transept towers are beautiful in themselves, but are overpowered by the richness of those of the


378. Plan of Cathedral at Bazas. From Lamothe.[1] Scale 100 ft. to 1 in.

[1] 'Compte Rendu des Travaux de la Commission des Monumens,' &c.: Rapport présenté au Préfet de la Gironde, 1848 et seq.

west front. The whole of that façade, in spite of the ruin of some of its most important features, and the intrusion of much modern vulgarity, may be called a romance in stone, consisting as it does of a profusion of the most playful fancies. Like most of the cathedrals near our shores, that of Rouen was designed to have a central spire; this, however, was not completed till late in the cinque-cento age, and then only in vulgar woodwork, meant to imitate stone. That being destroyed, an attempt has lately been made to replace it by still more vulgar iron work, leaner and poorer than almost anything else of modern times.

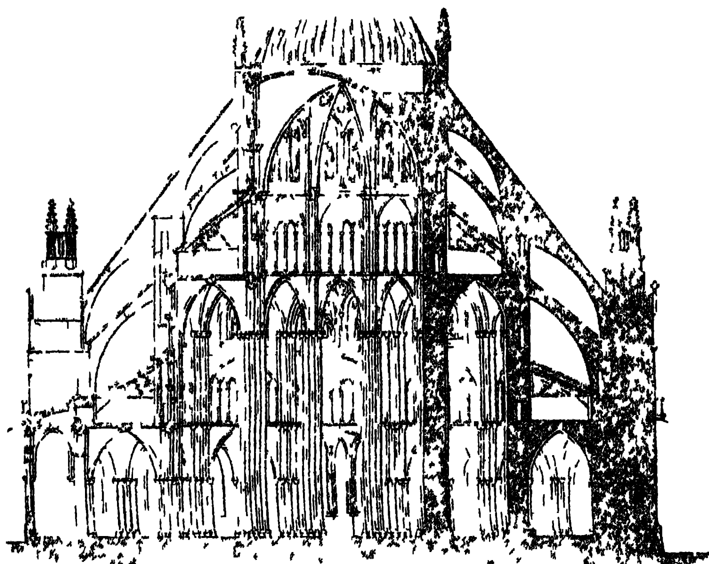


79. Plan of Cathedral at Bourges. From Girardot, 'Description de la Cathédrale.' Scale 100 ft. to 1 in.

In the preceding pages, all mention of the cathedrals of Bazas and Bourges has been purposely omitted, because they belong to a different type from the above. The first (woodcut No. 378) is one of the most perfect specimens of the pure Gothic style in the south of France. Its noble triple portal, filled with exquisite sculpture, and its extensive chevet, make it one of the most beautiful of its class. It shows no trace of a transept, a peculiarity, as before pointed out, by no means uncommon in the south. This, though a defect so far as external effect is concerned, gives great value to the internal dimensions, the appearance of length being far greater than when the view is broken by the intersection of the transept.

This is still more striking at Bourges, where the cathedral, though one of the finest and largest in France, covering 73,170 square feet, is still one of the shortest, being only 405 ft. in extreme length; yet, owing to the central aisle being wholly unbroken, it appears one of

the longest, as it certainly is one of the most majestic of all. This cathedral possesses also another Southern peculiarity of more questionable advantage, in having five aisles in three different heights. The section (woodcut No. 380) will explain this. The central aisle is 117 ft. in height, those next to it 66 ft. high, the two outer only 28.



380. Section of Cathedral at Bourges. From drawings by F. Penrose, Esq., Architect. Scale 50 ft. to 1 in.

These last appear to destroy the harmony of the whole, for on an inspection of the building, the outer aisles do not appear to belong to the design, but look more like afterthoughts. At Milan, Bologna, and other places in Italy where this gradation is common, this mistake is avoided, and the effect proportionably increased, and except that it does not admit of such large window spaces, I am not quite sure if such a method would not be preferable to the usual one. This arrangement of the aisles was never again fairly tried in France; but even as it is, the cathedral of Bourges must rank after the four first mentioned as the finest and most perfect of the remaining edifices of its class in that country. It is singularly beautiful in its details, and happy in its main proportions, for owing to the omission of the transept, the length is exquisitely adapted to the other dimensions. Had a transept been added, at least 100 ft. of additional length would have been required to restore the harmony; and though externally it would no doubt have gained by such an adjunct, this gain would not have been adequate to the additional expense so incurred.

The greater part of the western façade of this cathedral is of a later date than the building itself, and is extended so much beyond the proportions required for effect as to overpower the rest of the building, so that it is only from the sides or the eastern end that all the beauty of this church can be appreciated.

As far as regards size or richness of decoration, the cathedral of Orleans deserves to rank as one of the very first in France, and is remarkable as the only first-class Gothic cathedral erected in Europe since the middle ages. The original church on this site having been destroyed by the Calvinists, the present cathedral was commenced in the year 1601 by Henry IV. of France, and although the rebuilding proceeded at first with great vigour, and the work was never wholly discontinued, it is even now hardly completed.

Considering the age in which it was built, and the contemporary specimens of so-called Gothic art erected in France and England, it is wonderful how little of classical admixture has been allowed to creep into the design of this building, and how closely it adhered to every essential of the style adopted. In plan, in arrangement, and indeed in details, it is so correct, that it requires considerable knowledge to define the difference between this and an older building of the same class. Still there is a wide difference, which makes itself felt, though not easily described, and consists in the fact that the old cathedrals were built by men who had a true perception of their art; while the modern example only bears evidence of a well-learnt lesson distinctly repeated, but without any real feeling for the subject. This want betrays itself in an unmeaning repetition of parts, in a deficiency of depth and richness, and in a general poverty of invention.

Collegiate Churches.

It would not be difficult to select out of the collegiate churches of France as complete a series as of the cathedrals, though of inferior size. But having already gone through the one class of buildings, we must confine ourselves to a brief notice of the other. The church of Charité sur Loire was one of the most picturesque and beautiful in France. It is now partially ruined, though still retaining enough of its original features to illustrate clearly the style to which it belongs. Originally the church was about 350 ft. in length by 90 in breadth. One tower of the western front, one aisle, and the whole of the choir still remain and belong without doubt to the church dedicated in 1106 by Pope Pascal. The presence of the pointed form in the pier arches and vaults has induced some to believe that this church belongs to the reign of Philip Augustus, about a century later, and when the church was restored after a great fire. Its southern position, however, the circumstance of its being the earliest daughter church of the abbey of Cluny,

and the whole style of the building, are proofs of its earlier age. All the decorative parts, and all the external openings, still retain the circular form as essentially as if the pointed had never been introduced.

The most remarkable feature in this church is the exuberance of the ornament with which all the parts are decorated, so very unlike the massive rudeness of the contemporary Norman or Northern styles. The capitals of the pillars, the arches of the triforium, the jambs of the windows and the cornices, all show a refinement and love of ornament characteristic of a far more advanced and civilized people than those of the northern provinces of France.



View in the Choir of Charité sur Loire. From a sketch by the Author.

Among those who were present at the dedication of this church was the Abbé Suger, then a gay young man of twenty years of age, who about thirty years later in the plenitude of his power commenced the building of the abbey of St. Denis, near Paris, the west front of which was dedicated in the year 1140, and the rest of the church built "stupendâ celeritate," and dedicated in 1144. This, though certainly not the earliest, may be considered as the typical example of the earliest pointed Gothic in France. It terminated the era of transition, and fixed the epoch when the Northern pointed style became supreme, to the total exclusion of the round-arched style that preceded it. The effect of Suger's church is now destroyed by a nave of the 14th century—of great beauty it must be confessed—which is interpolated between the western front and the choir, both which remain in all essentials as left by him, and enable us to decide without hesitation on the state of architectural art at the time of the dedication of the church.

A few years later was commenced the once celebrated abbey of Pontigny, near Auxerre, probably in 1150, and completed, as we now find it, within 15 or 20 years from that date.

Externally it displays an almost barn-like simplicity, having no towers or pinnacles—plain undivided windows, and no ornament of any sort. The same simplicity reigns in the interior, but the varied form, and play of light and shade here relieve it to a sufficient extent, and make it altogether, if not one of the most charming examples of its age, at least one of the most instructive, as showing how much effect can be obtained with the smallest possible amount of ornament. In obedience to the rules of the Cistercian order, it neither had towers nor painted glass, which last circumstance perhaps adds to its beauty, as we now see it, for the windows being small, admit just light enough for effect, without the painful glare that now streams through the large mullioned windows of the cathedral of Auxerre.



382. Chevet, Pontigny. From Chaillou des Barres.

To the Englishman, Pontigny should be more than usually interesting, as it was here that the three most celebrated archbishops of Canterbury, Becket, Langton, and Edmund, found an asylum when driven by the troubles of their native land to seek a refuge abroad, and the bones of the last-named sainted prelate are said still to remain in the *châsse*, represented in the woodcut, now and for centuries the great object of worship here.

About a century after the erection of these two early specimens, we have two others, the dates of which are ascertained, and which exhibit the pointed style in its greatest degree of perfection. The first, the Sainte Chapelle in Paris, was commenced in 1241, and dedicated in 1244; the other, the church of St. Urban at Troyes, was begun in 1262, and the choir and transept completed in 1266. Both are only fragments—choirs to which it was originally intended to add naves of considerable extent. The proportions of the Sainte Chapelle are in consequence somewhat too tall and short; but the noble simplicity of its design,

the majesty of its tall windows, and the beauty of all its details, render it one of the most perfect examples of the style at its culminating point in the reign of St. Louis. Now that the whole of the painted glass has been restored, and the walls repainted according to what may be assumed to have been the original design, we are enabled to judge of the effect of such a building in the middle ages. It may be that our eyes are not educated up to the mark, or that the restorers have not quite grasped the ancient design, but the effect as now seen is certainly not quite satisfactory. The painted glass is glorious but the effect would certainly have been more pleasing if all the structural parts of the architecture had been of one colour. There is no repose about the interior — nothing to explain the construction. The flat parts may have been painted as they now are; but surely the shafts and ribs could only have been treated as stone.

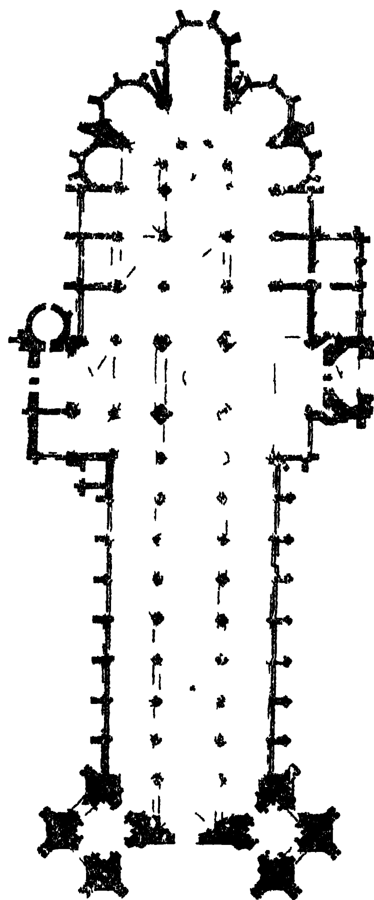


83. West Front of Ste Marie de l'Épine. From Dusommerard.

The other was founded by Pope Urban IV., a native of Troyes, and would have been completed as a large and magnificent church, but for the opposition of some contumacious nuns, who had sufficient power and influence even in those days to thwart the designs of the Pope himself. Its great perfection is the beauty of its details, in which it is unsurpassed by anything in France or in Germany; its worst defect is a certain exaggerated temerity of construction, which tends to show how fast, even when this church was designed, architecture was passing from the hands of the true artist into those of the

mason, whose attempts to astonish by wonders of construction then, and ever afterwards completely marred the progress of the art which was thought to be thereby promoted.

About seventy years after this we come to the choir of St. Ouen, and to another beautiful little church, Ste. Marie de l'Epine (woodcut No. 383), near Chalons sur Marne, commenced apparently about 1329, though not completed till long afterwards.[1] It is small—a miniature cathedral in fact—like our St. Mary Redcliffe, which in many respects it resembles, and is a perfect bijou of its class. One western spire remains,—the other was destroyed to make room for a telegraph; and is not only beautiful in itself, but interesting as almost the only example of an open work spire in France.



384. Plan of Church of St. Ouen at Rouen. From Pugin's Normandy. Scale 100 ft. to 1 in.

The church of St. Ouen, at Rouen, was beyond comparison the most beautiful and perfect of the abbey edifices of France. This was commenced by Marc d'Argent in the year 1318, and was carried on uninterruptedly for twenty-one years, and at his death the choir and transepts were completed or very nearly so. The English wars interrupted at this time the progress of this, as of many other buildings, and the works of the nave were not seemingly resumed till about 1490; and twenty-five years later the beautiful western front was commenced.

Except that of Limoges, the choir is almost the only perfect building of its age, and being nearly contemporary with the choir at Cologne (1276 to 1321), affords a means of comparison between the two styles of Germany and France at that

[1] Mr. Beresford Hope, in his 'English Cathedral of the XIXth Century,' contends that the church was only commenced in 1419, and also maintains that the west front was completed by an English architect named Patrick in 1429. If this were so we must abandon all our chronology founded on style. It is all a mistake if the east end is not a century earlier. I am unwilling to go to school again on the faith of a little pamphlet, published by a French curé in a remote village.

age, entirely to the advantage of the French example, which, though very much smaller, avoids all the more glaring faults of the other.



385 Church of St. Ouen at Rouen, from the S.E. From Chapuy.

Nothing indeed can exceed the beauty of proportion of this most elegant church; and except that it wants the depth and earnestness of the earlier examples, it may be considered as the most beautiful thing of its kind in Europe. The proportion too of the nave, transepts, and choir to one another is remarkably happy, and affords a most striking contrast to the very imperfect proportions of Cologne. Its three towers

also would have formed a perfect group as originally designed, but the central one was not completed till so late, that its details have lost the aspiring character of the building on which it stands, and the western spires, as rebuilt within the last ten years, are incongruous and inappropriate; whereas had the original design been carried out according to the drawings which still exist, it would have been one of the most beautiful façades known anywhere. The diagonal position of the towers met most happily the difficulty of giving breadth to the façade without placing them beyond the line of the aisles, as is done in the cathedral of Rouen, and at the same time gave a variety to the perspective which must have had the most pleasing effect. Had the idea occurred earlier, few western towers would have been placed otherwise; but the invention came too late, and within the last few years we have seen all traces of the arrangement ruthlessly obliterated.



386. Southern Porch of St. Ouen at Rouen. From Chapuy.

The style of the choir of this church may be fairly judged from the view of the southern porch (woodcut No. 386). This has all that perfection of detail which we are accustomed to admire in Cologne Cathedral, and the works of the time of our second Edward, combined with a degree of lightness and grace peculiar to this church. The woodcut is too small to show the details of the sculpture in the tympanum above the doors, but that too is of exquisite beauty, and being placed where it can be so well seen, and at the same time so perfectly protected, it heightens the architectural design without in any way seeming to interfere with it. This is a somewhat rare merit in French portals. In most of them it is evident that the architect has been controlled in his design in order to make room for the immense quantity of sculpture which usually crowds them. On the other hand, the position of the figures

is often forced and constrained, and the basreliefs nearly unintelligible, from the architects having been unable to give the sculptor that unencumbered space which was requisite for the full development of his ideas.

It would be easy to select numerous examples from the collegiate and parish churches of France to extend this series. Our limits will not, however, admit of the mention of more than one other instance. The sepulchral church of Brou en Bresse was erected between 1511 and 1536, by Margaret of Austria, daughter of Maximilian, and aunt of Charles V., emperor of Germany. It was therefore nearly contemporary with Henry VII.'s Chapel at Westminster, and thus affords the means of comparison between the English and French styles of the day, which is wholly in favour of our own; both are the most florid specimens of their class in either country, but at Brou, both externally and internally, all majesty of form and constructive propriety are lost sight of; and though we wonder that stone could be cut into such a marvellous variety of lace-like forms, and are dazzled by the splendour of the whole, it is with infinite pleasure that we turn from these elaborate specimens of declining taste to an earlier and purer style. Fascinating as some of these late buildings undoubtedly are from the richness of decorative fancy that reigns in every detail, still they can only be regarded as the productions of the stonemason and carver, and not of the arts of the architect or sculptor properly so called.

In the city of Rouen we also find the beautiful church of St. Maclou (1432-1500), a gorgeous specimen of the later French style, presenting internally all the attenuation and defects of its age; but in the five arcades of its beautiful western front it displays one of the richest and most elegant specimens of Flamboyant work in France. It also shows what the façade of St. Ouen would have been if completed as designed. This church once possessed a noble central tower and spire, destroyed in 1794. When all this was complete, few churches of its age could have competed with it.

St. Jacques at Dieppe is another church of the same age, and possessing the same lace-like beauty of detail and elaborate finish, which charms in spite of soberer reason, that tells us it is not in stone that such vagaries should be attempted. Abbeville, St. Riquier, and all the principal towns throughout that part of France are rich in specimens of the late Gothic, of which we are now speaking. These specimens are beautiful in many respects, but in almost all inferior to those of the glorious epoch which preceded them.

CHAPTER X.

CONTENTS

Gothic details — Pillars — Windows — Circular windows — Bays — Vaults — Buttresses — Pinnacles — Spires — Decoration — Construction — Furniture of Churches — Domestic architecture.

Although in the preceding pages, in describing the principal churches of France, mention has been made of the various changes of detail which took place from the time of the introduction of the pointed style till its abandonment in favour of the revived classical, still it seems necessary to recapitulate the leading changes that were introduced. This will be most fitly done before we leave the subject of French architecture, that being on the whole the most complete and harmonious of all the pointed styles, as well as the earliest.

Pillars.

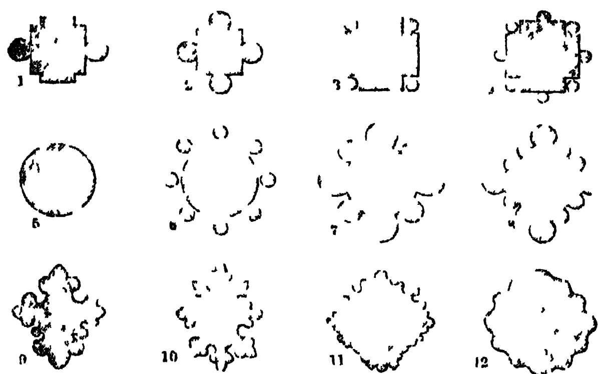
Of these details, the first that arrests the attention of the inquirer is the form of the pillars or piers used in the middle ages, inasmuch as it is the feature that bears the most immediate resemblance to the typical forms of preceding styles. Indeed, the earlier pillars in the round-arched style were virtually rude imitations of Roman originals, made so thick and heavy as to bear without apparent stress the whole weight of the arches they supported, and of the superincumbent wall. This increase of the weight laid upon the pillars, and consequently in their strength and heaviness, was the great change introduced into the art of building in the early round Gothic style. With the same requirements the classic architects either must have thickened their pillars immensely, or coupled them in some way. Indeed the Romans, in such buildings as the Colosseum, placed the pillars in front and a pier behind, which last was the virtual support of the wall. The Gothic architects improved on this by adding a pillar, or rather a half pillar, on each side, to receive the pier arches, and carrying up those behind and in front to support the springing of the vault or roof, instead of the useless entablature of the Romans.

By this means the pier became in plan what is represented in figs. 1 and 2 in the diagram (woodcut No. 387). Sometimes it was varied, as represented in fig. 3, where the angle-shafts were only used to lighten the apparent heaviness of the central mass; in other examples both these modes are combined, as in fig. 4, which not only constructively,

but artistically, is one of the most beautiful combinations which the square forms are capable of, combining great strength with great lightness of appearance, and variety of light and shade.

These four forms may be said to be typical in the South, where the style was derived so directly from the Roman square pier combined with an attached circular pillar.

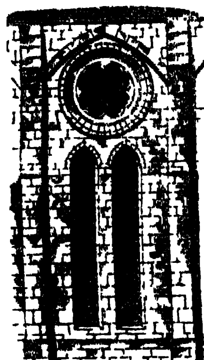
In the North the Normans, and generally speaking, all the Frankish tribes, used the circular pillar in preference to the square pier, and consequently the variations were as shown in figs. 5, 6, 7, and 8; which, though forming beautiful combinations, wanted the accentuation produced by the contrast between the square and round forms.



387 Diagram of Plans of Pillars.

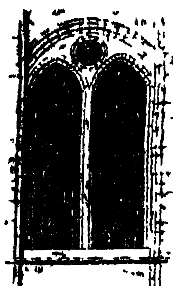
The architects after a time seem to have felt this, and tried to remedy it by introducing ogee forms and sharp edges, with deep undercut shadows, thus applying to the pillars those forms which had been invented for the mouldings of the ribs of the vaults, and for the tracery of the windows. The expedient was perfectly successful at first, and, so long as it was practised in moderation, gave rise to some of the most beautiful forms of pillars to be found in any style. It proved, however, too tempting an opportunity for the indulgence of every sort of quirk and quibble; and after passing through the shapes shown in figs. 9 and 10, where the meaning of all the parts is still sufficiently manifest, it became as complicated as fig. 11, and sometimes even more cut up, so that all meaning and beauty was lost. It became moreover very expensive and difficult to execute, so that in later times the architects reverted either to circular pillars, or to such a form as that shown in fig. 12, which was introduced in the 16th century. The change may have been partly introduced from motives of economy, and also to some extent from a desire to imitate the flutings of classical pillars: but from whatever motive it arose, it is singularly unmeaning and inartistic; and as the capital was at the same time omitted, the

whole pillar took an appearance of cold poverty, entirely at variance with the true spirit of Gothic art. This last change showed, perhaps more clearly than those introduced into any other feature, how entirely the art had died away before the classical styles superseded it.

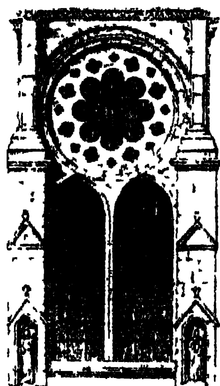

388. Window, St Martin, Paris. From 'Paris Archéologique.'

WINDOWS.

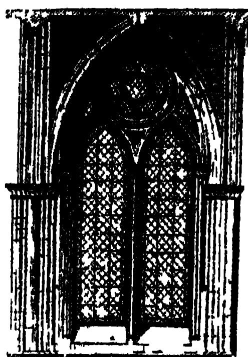
Before painted glass came into use, very small apertures sufficed to introduce the required quantity of light into the churches. These openings retained their circular arched heads long after the pointed form pervaded the vaults and pier arches, because the architects still thought them the most beautiful, they moreover occupied so small a portion of the wall spaces that their lines neither came in contact nor interfered with the constructive lines of the building itself. but when it was required to enlarge them for the purpose of receiving large pictures, the retention of the circular form was no longer practicable.


389. Window in Nave Cathedral at Chartres.

The woodcut No. 361, showing the side elevation of Notre Dame at Paris, illustrates well three stages of this process as practised in the 12th and 13th centuries. It exhibits first the large undivided window without mullions, the glass being supported by strong iron bars: next, that with one mullion and a circular rose in the head; and lastly, in the lower storey, a complete traceried window. The transition from the old small window to the first of these is easily explained, and the woodcut No. 388, representing one of the windows in St. Martin at Paris, will explain the transition from the first to the second. Instead of one large undivided opening, it was often thought more expedient to introduce two lancets side by side; but as these never filled, or could fill, the space of one bay so as to follow its principal lines, it became usual to introduce a circular window of greater or less size between their heads. This, with the rude construction of the age, presented certain difficulties, which were obviated by carrying the masonry of the vault through the wall so as to form a discharging arch. When once this was done it required only


390. Window in Choir of Cathedral at Chartres.

a glance from an experienced builder to see that if the discharging arch were strong enough, the whole of the wall between the buttresses might be removed without endangering the safety of the building. This was accordingly soon done. The pier between the two lancets became attenuated into a mullion, the circle lost its independence, and was grouped with them under the discharging arch, which was carried down each side in boldly splayed jambs, and the whole became in fact a traceried window.



Wind

In the cathedral at Chartres we have examples of the two extremes of these transitional windows. In the windows of the aisles of the nave (woodcut No. 389) the circle is small and insignificant, and only serves to join together the two lancets. In the clerestory (woodcut No. 390), which is somewhat later, the circle is all important and quite overpowers the lower part. Here it is in fact a circular window, supported by a rectilinear substructure. In both these instances the discharging arch still retains its circular form, and the tracery is still imperfect, inasmuch as all the openings are only holes of various forms cut into a flat surface, whereas to make it perfect, it is necessary that the lines of two contiguous openings should blend together, being separated by a straight or curved moulded mullion, and not merely pierced as they are in this instance. This may perhaps be better illustrated by one of the windows of the side-aisles at Rheims, where the pointed Gothic window has become complete in all its essential parts. Even here, it will be observed how awkwardly the circle fits into the spherical triangle of the upper part of the window. Indeed, there is an insuperable awkwardness in the small triangles necessarily left in fitting circles into the spaces above the lancets, and beneath the pointed head of the openings. When four or five lights were used instead of two, this defect became more apparent, and even in the example from St. Ouen (woodcut No. 392), one of the most beautiful in France, the architect has not been able to obviate the discordance between the conflicting lines of the circle and spherical triangle. At last, after two centuries of earnest trial, the builders of those days found themselves constrained



392. Window at St. Ouen

to abandon entirely these beautiful constructive geometric forms, for tracery of a more manageable nature, and in place of the circle, they invented first a flowing tracery, of which the window at Chartres (woodcut No. 393) is an exquisite example; and then having shaken off the trammels of constructive form, launched at once into all the vagaries of the flamboyant style. In this style, stone tracery was made to look bent and twisted, as willow wands. Its forms, it must be confessed, were always graceful, but constructively weak, and frequently extravagant, showing a complete contrast to the contemporary perpendicular style followed in England. That failed from the stiffness of its forms; this from the fantastic pliancy with which so rigid a material as stone was used. Greatness or grandeur was as impossible in flamboyant tracery, as grace and beauty were with the perpendicular style; still for domestic edifices, and for the smaller churches erected in the 16th century, it must be confessed the flamboyant style has a charm it is impossible to resist. It is so graceful and so fantastically brilliant, that it captivates in spite of our soberer reason, lending as it does an elegance to every edifice where it is found, and finding its parallel alone among the graceful fancies of the Saracenic architects of the best age.



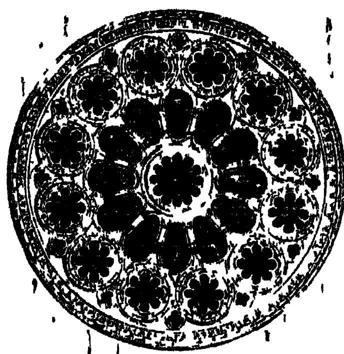
393. Window at Chartres

Circular Windows.

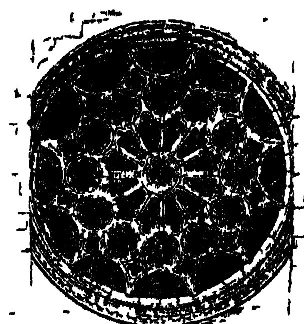
By far the most brilliant examples of this class in France are to be found among the great circular windows with which the west ends and transepts of the cathedrals were adorned. There is, I believe, no instance in France of the great straight-mullioned windows of which our architects were so fond, and even where the east end terminates squarely, as at Laon, it has a great rose window. There can be little doubt that the circle, so long as it was wholly adhered to, was the noblest form architecturally, both externally and internally; but when the triforium below it was pierced, and the lower angles outside the circle were filled with tracery, making it into something like our great windows, the result was a confusion of the two modes, in which the advantages of neither were preserved.

Of the earlier circular windows, one of the finest is that in the western front at Chartres (woodcut No. 394), of imperfect tracery, like the greater part of that cathedral, but of great size and majesty. Its diameter is 39 ft. across the openings, and 44 ft. 6 in. across to the outer mouldings of the circle. Those of the transepts are smaller,

being only 33 ft across the opening, but show a considerable advance in the art of tracery, which by the time they were executed was becoming far better understood.

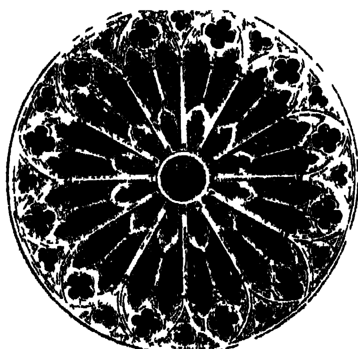


394. West Window, Chartres.

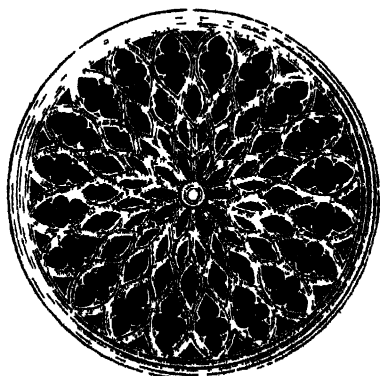


395. Transept Window, Chartres.

If space admitted it would be easy to select examples to trace the progress of the invention between these early efforts and the almost perfect window that adorns the centre of the west front at Rheims (woodcut No. 396), and again from this to that at Evreux (woodcut No. 397). In the latter instance, the geometric forms have given way to the lace-work of flowing tracery, of which this is a pleasing example. It is further remarkable in respect that all the parts of the tracery or mullions are of the same thickness, whereas it is usual in flowing or flamboyant tracery to introduce a considerable degree of subordination into the parts, dividing them into greater or smaller ribs, thus avoiding confusion and giving to the whole a constructive appearance which it otherwise would not possess. This is very apparent in such a window as that which adorns the west front of St. Ouen, at Rouen, where the parts are distinctly subordinated to one another and have consequently



396. West Window, Rheims.



397. West Window, Evreux.

that strength and character which it is so difficult to impart. It also exemplifies what was before alluded to, viz., the mode in which the lower external angles of the circle were filled up, and also, in a far more pleasing manner than usual, the mode in which the pierced triforium is made to form part of the decoration. Owing to the strong transom bar here employed, there is strength enough to support the superstructure, but as too often is the case, when this is subdued and kept under, there is a confusion between the circular and upright parts, which is not pleasing. It is then neither a circular nor an upright window, but an indeterminate compound of two pleasing members, in which both suffer materially.



398. West Window, St Ouen. From Pugin.

I believe it is safe to assert, that out of at least a hundred first-class examples of these circular windows, which still exist in France, no two are alike. On the contrary, they present the most striking dissimilarity of design. There is no feature on which the French architects bestowed more pains, or in which they were more successful. They are, indeed, the *chefs-d'œuvre* of their decorative abilities, and the most pleasing individual features of their greater churches. At the same time they completely refute the idea that the pointed form is at all necessary for the production of beauty in decorative apertures.

Bays.

It may be useful here to recapitulate what has been said of the subdivision of churches into bays, or, as the French call them, *travées*. The two typical arrangements of these are shown in woodcuts Nos. 355 and 356, as existing before the introduction of the pointed forms. In the first a great gallery runs over the whole of the side-aisle, introduced partly as a constructive expedient to serve the purpose for which flying buttresses were afterwards employed, partly as enabling

the architect to obtain the required elevation without extraordinarily tall pillars or wide pier spaces, both which were beyond the constructive powers of the earlier builders. These galleries were also useful as adding to the accommodation of the church, as persons were able thence to see the ceremonies performed below, and to hear the mass and music as well as from the floor of the church. These advantages were counterbalanced by the greater dignity and architectural beauty of the second arrangement (woodcut No. 356), where the whole height was divided into that of the side-aisles and of a clerestory separated from one another by a triforium gallery, which represented in fact the depth of the wooden roof requisite to cover the side-aisles. When once this simple and beautiful arrangement was adopted, it continued with very little variation throughout the middle ages.[1] The proportions generally used were to make the aisles half the height of the nave. In other words, the string-course below the triforium divided the height into two equal parts, the space above that was divided into three, of which two were allotted to the clerestory, and one to the triforium.[2] It is true there is perhaps no single instance in which the proportions here given are exactly preserved, but they sufficiently represent the general division of the parts, from which the architects only deviated slightly, sometimes on one side, sometimes on the other, according to their taste or caprice. The only really important change afterwards introduced was that of glazing the triforium gallery also by adopting a flat roof, or one nearly so, over the side-aisles, as at the church of St. Ouen at Rouen (woodcut No. 392), where the roof is so flat that the edge of it is hardly seen by a spectator standing on the floor of the church. The whole walls of the church, with the slight exception of the spandrils of the great pier arches, have thus become walls of glass, the mass of the vault being supported only by the deep and bold constructive lines of which the framework of the glass surface consists.

In England we have not, as far as I am aware, any instance of a glazed triforium, but it is one of the most fascinating features in the later styles of the French architects, and where it retains its coloured glass, which is indispensable, produces the most fairy-like effects. It is, however, questionable whether the deep shadow and constructive propriety of the English practice is not on the whole more satisfactory. In a structure of glass and iron nothing could be more appropriate than the French practice, but in a building of stone and wood more solidity is required to produce an effect which shall be permanently pleasing.

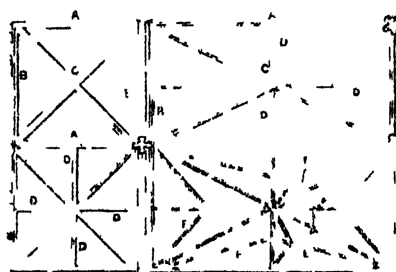
[1] The earlier form is found retained at Noyon, at Paris, as shown in woodcut No. 360, and in most of the churches of the 12th century; but in the first years of the 13th it gave place to the second, and was not afterwards revived.

[2] See Introduction, page 23.

VAULTS.

It has already been explained how essential a part of a Gothic church the vault was and how completely it was the governing power that gave form to the art. We have also seen the various steps by which the architects arrived at the intersecting vault, which became the typical form in the best age. In France especially the stone vault was retained throughout as a really essential feature, for though the English were so successful in the practice, in that country the art of constructing ornamental wooden roofs never prevailed.

In the best age the arrangement of the French vaults was extremely simple. The aisles were generally built in square compartments, the vaults of which were first circumscribed each by four equal arches (woodcut No. 299), of which A A were transverse ribs, or *arcs doubleaux* as the French called them, and were used, as we have seen, in the old tunnel vault. These arches, as springing from the main points of support, were the principal strengtheners of the vault. B was called the *formeret*, and was a rib built into the wall, of the same form as the transverse ribs, and so called because, being the first constructed, it gave the form to the vault. Lastly there were two more ribs springing from angle to angle and intersecting one another at C. These were called *ogives* from the Latin word *augere*, to strengthen,[1] which was the object of their employment—and every builder knows how essential is the strength given by them. In modern vaults—in cellars or dock-vaults for instance, if built of brick, it is usual to insert a course of stone on the edge of the intersection, for bricks used there would be liable to be crushed or fall out. But though this is now done flush with the brickwork, the mediæval architects allowed this course to project, not only because such a form was stronger in itself, but because it gave the appearance as well as the reality of strength.



299. Diagram of Vaults.

The roof of the nave was composed of precisely the same parts, only that, being twice as wide as each compartment was broad, the length of the transverse ribs and of the intersecting ogives was greater in proportion to the formerets than in the aisles. Another addition, and certainly an improvement, was the introduction of ridge ribs (D D),

[1] The French antiquaries employ this word as if it signified a pointed arch, whence they designate the style itself as *ogival*. There is no doubt, however, that the word has nothing to do with the form of the arch or the ogee, but is the name of a rib common to the round-arched as well as to the pointed style.

marking the point of the vault. These could not of course be used with circular arches, where there was no central line for them to mark; and it probably was from this cause that the French seldom adopted them, having been accustomed to vaults not requiring them. Another reason was that all their earlier vaults were more or less domical, or in other words the point C was higher than the points A or B, though this is more apparent in hexapartite vaults, or where one compartment of the nave-vaults takes in two of the aisles, than in quadripartite, like those now under consideration. Still all French vaults have this peculiarity more or less, and consequently the longitudinal ridge-rib, where used, has an up and down broken appearance, which is extremely disagreeable, and must in a great measure have prevented its adoption. There is, however, at least one exception to this rule in France in the abbey church of Souvigny, represented in the woodcut No. 400, where this rib is used with so pleasing an effect that one is surprised it was not in more general favour.



Abbey Church, Souvigny. From 'L'Ancien Bourbonnais.'

These are the only features usually employed by French architects: but we do sometimes find tiercerons, or secondary ogives, used to strengthen as well as to ornament the plain faces of the vaults, one or two on each face, as at E E (in woodcut No. 399); small ribs or *liernes*, F F, from *lier*, to bind, were also occasionally used to connect all these at the centre, where they formed star patterns, and other complicated but beautiful ornaments of the vault. These last, however, are rare and exceptional in French vaulting, though they were treated by the English architects with such success that we wonder they were not more generally adopted in France. The most probable explanation appears to be that the French architects depended more on colour than on relief for the effect of their vaults, while in England colour was sparingly used, its place being

supplied by constructive carving. Whatever may have been the comparative merits of the two methods when first used, the English vaults have a great advantage now, inasmuch as the carving remains, while the paintings of the others have perished, and we have no means left of judging of their original effect.

One of the most beautiful features of French vaulting, almost entirely unknown in this country, is the great polygonal vault of the semi-dome of the chevet, which is an architectural object few will be disinclined to admit is, with its walls of painted glass and its light constructive roof, a far more beautiful thing than the plain semi-dome of the basilican apse, notwithstanding its mosaics. Still, as the French used it, they never quite surmounted the difficulties of its construction, and in their excessive desire to do away with all solid wall, and to get the greatest possible surface for painted glass, they often distorted these vaults in a very unpleasing manner.

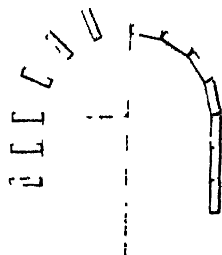
The chevet of Pontigny (woodcut No. 82) presents a good example of the early form of vault, which, owing to the small size of the windows and general solidity of the composition, avoids the defects above alluded to. Of the later examples there are few except that of Souvigny, represented in woodcut No. 400, where the difficulty has been entirely conquered by constructing the spandrils with pierced tracery, so that the vault virtually springs from nearly the same height as the arch of the windows, and a very slight improvement would have made this not only constructively, but artistically perfect. This is a solitary specimen, and one which, though among the most beautiful suggestions of Gothic art, has found no admirers, or at least no imitators.

Notwithstanding this difficulty of construction, these pierced semi-domes are not only the best specimens of French vaulting, but are among the most beautiful inventions of the middle ages, and form a finer termination to the cathedral vista than either the great windows of the English or the wonderful rose windows of the French cathedrals.

BUTTRESSES.

The employment of buttresses was a constructive expedient that followed almost indispensably on the use of vaults for the roofing of churches. It was necessary either to employ enormously thick walls to resist the thrust, or to support them by some more scientific arrangement of the materials. The theory of the buttress will be easily understood from the diagram (woodcut No. 101), representing seven blocks or masses of masonry disposed first so as to form a continuous wall, but which evidently affords very little resistance to a thrust or push, tending to overturn it from within. The left hand arrangement is, from the additional breadth of base in the direction of the thrust, much less liable to fall outwards provided the distance of the blocks

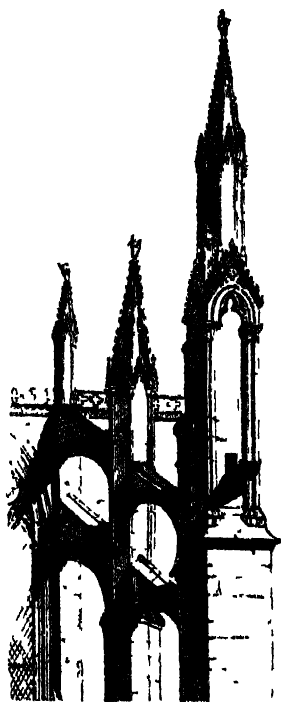
from one another is not too great, and the mass of the vault does not press heavily on the intermediate space. This last difficulty was so much felt by the earlier French architects that, as we have seen, in the south of France especially, they used the roof of the side-aisle as a continuous buttress to resist the thrust of their tunnel-vaults. It was surmounted also by the introduction of intersecting vaults, inasmuch as by this expedient all the thrusts were collected together at a point over each pier, and a resisting mass applied on that one point was sufficient to give all the stability required. This and the desire of raising the lights as high as possible into the roof were the principal causes that brought this form of vaulting into general use; still it has not yet been shown that the continuous vault is not artistically the more beautiful of the two forms, if not constructively so also.



401. Diagram of Buttress s

There was yet another difficulty to be mastered, which was that the principal vault to be abutted was that over the nave or central part of the church, and buttresses of the requisite depth would have filled up the side aisles entirely. The difficulty first presented itself in the building of the basilica of Maxentius (woodcut No. 194), and was there got over in something like the manner practically adopted in the middle ages, except that the arch was there carried inside, whereas the Gothic architects threw the abutting arch across on the outside and above the roof.

Several of the previous woodcuts[1] show the system of flying buttresses in various stages of advancement. The view of one of those of the choir of St. Ouen (No. 402) exhibits the system in its greatest degree of development. Here there are two vertical and two flying buttresses, forming a system of great lightness, but at the same time of immense constructive strength, and when used sparingly and with elegance, as in this instance, constituting an object of great beauty. The abuse of this expedient, as in the cathedral at Cologne and elsewhere, went very far to mar the proper effect.

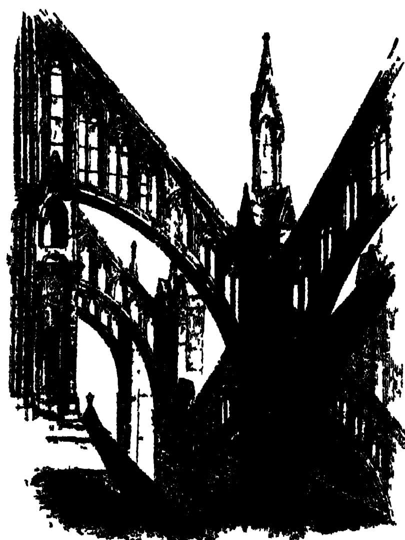


402. Flying Buttress of St. Ouen. From Batissier, 'Histoire de l'Art.'

[1] See woodcuts Nos. 360, 368, 380, &c.

The cathedral at Chartres presents a singular but very beautiful instance of an earlier form of flying buttress; there the immense span of the central vault put the architects on their mettle to provide a sufficient abutment, and they did it by building what was literally an open wall across the aisle (see woodcut No. 367), strongly arched, and the arches connected by short strong pillars radiating with the voussoirs of the arch. Nothing could well be stronger and more scientific than this, but the absence of perpendicularity in the pillars was unpleasing to the eye then as now, and the contrivance was never repeated.

A far more pleasing form was that adopted afterwards at Amiens (woodcut No. 403) and elsewhere, where a series of small traceried arches stand on the lower flying buttress, and support the upper, which is straight-lined. Even here, however, the difficulty is not quite got over; the unequal height of these connecting arches, and the awkward angle which the lower supports make with the curvilinear form on which they rest, deprive them of that constructive propriety which alone secures a perfectly satisfactory result in architecture. The problem indeed is one which the French never thoroughly solved, though they bestowed immense pains upon it. Brilliant as the effect sometimes is of the immense mass of pinnacles and flying buttresses, they are seldom so put together as to leave an entirely satisfactory result on the mind of the spectator. Taken all in all perhaps the most pleasing example is that of Rheims (woodcut No. 368)—those on each side of the nave especially—where two bold simple arches transmit the pressure from a bold exquisitely pinnacled buttress to the sides of the clerestory, and in such a manner as to leave no doubt whatever either as to their purpose or their sufficiency to accomplish their object.



Flying Buttress at Amiens. From Chapuy

Notwithstanding the beauty which the French attained in their flying buttresses, it is still a question whether they did not carry this feature too far. It must be confessed that there is a tendency in the abuse of the system to confuse the outlines and to injure the true architectural effect of the exterior. Internally it no doubt enabled them to lighten their piers and increase the size of their windows to

an unlimited extent, and to judge fairly we must balance between the gain to the interior, and the external disadvantages. This we shall be better able to do when considering the next constructive expedient, which was that of the introduction of pinnacles.

Pinnacles.

The use of pinnacles, considered independently of their ornamental purposes, is evident enough. It is obvious that a wall or pillar which has to resist the thrust of a vault or any other power exerted laterally, depends for its stability on its thickness, its solidity, and generally on its lateral strength. A material consideration, as affecting this solidity, is that of weight. The most frequent use of pinnacles by the French was to surmount the piers from which the flying buttresses sprang. To these piers weight and solidity were thus imparted, rendering them a sufficiently steady abutment to the flying arches, which in their turn abutted the central vaults.

It must be understood that these expedients of buttresses and pinnacles were only employed to support the central roof of the nave. The vaults of the aisles were so narrow as not to require any elaborate system of abutments for their support, the ordinary thickness of the walls would have sufficed for that purpose, but they also had the advantage of the use of the supports designed for the larger vaults.

As a general rule the English architects never hesitated to weight their walls so as to apply the resistance directly on the point required, and not only adorned the roofs of their churches with pinnacles, but raised towers and lanterns on the intersections on all occasions. The French, on the other hand, always preferred placing these objects, not *on* their churches, but rather grouped around them, and springing from the ground. This, it is true, enabled them to indulge in height and lightness internally to an extent unknown in England. This extravagance proved prejudicial to the true effect even of the interior, while externally the system was very destructive of grace and harmony. A French cathedral is generally solid and simple, as high as the parapet of the side-aisles, but above this base the forest of pinnacles and buttresses that spring from it entirely obscure the clerestory, and confuse its lines. Above this the great mass and simple form of the high steep roof, unbroken by pinnacles or other ornaments, contrasts ill with the lightness and confused lines immediately below it. This inconsistency tends to mar the beauty of French cathedrals, and even of their churches, though in the smaller buildings the effect is less glaring owing to the smallness of the parts.

Spires.

An easy transition leads from pinnacles to spires, the latter being but the perfect development of the former, and each requiring the assistance of the other in producing a thoroughly harmonious effect. Still their uses were widely different, for the spire never was a con-



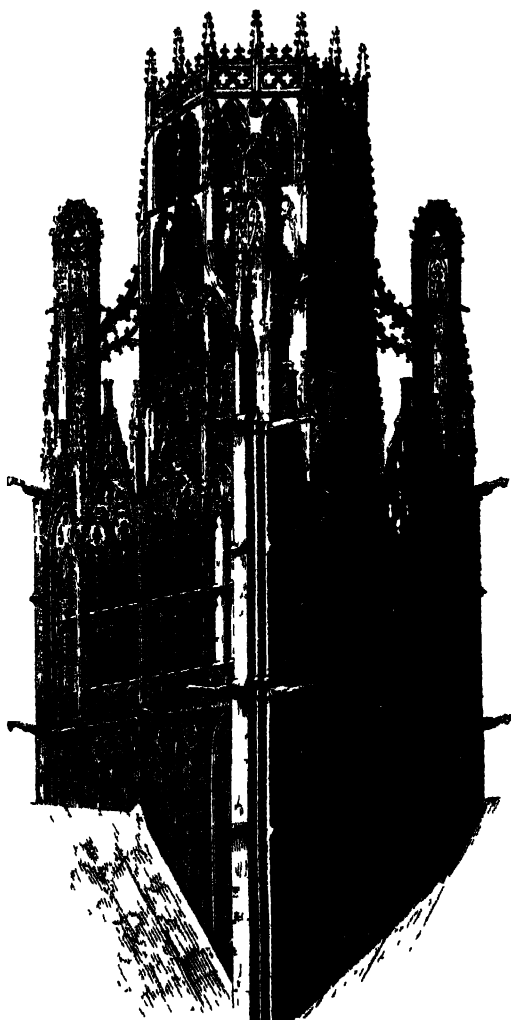
[illegible] St. Pierre, Caen. From Chapuy.

structive expedient, or useful in any way. Indeed, of all architectural features it is the one perhaps to which it is least easy to apply any utilitarian rule.

Towers were originally introduced in Christian edifices partly as

bell-towers, partly as symbols of power, and sometimes perhaps as fortifications, to which may be added the general purpose of ornamenting the edifices to which they were attached, and giving to them that dignity which elevation always conveys.

From the tower the spire arose first as a wooden roof, and as height was one of the great objects to be attained in building the tower, it was natural to eke this out by giving the roof an exaggerated elevation beyond what was actually required as a mere protection from the weather. When once the idea was conceived of rendering it an ornamental feature, the architects were not long in carrying it out. The first and most obvious step was that of cutting off the angles, making it an octagon, and carrying up the angles of the tower by pinnacles, with a view to softening the transition between the perpendicular and sloping part, and reducing it again to harmony.



403. Lantern, St. Ouen, Rouen. From a print by Chapuy.

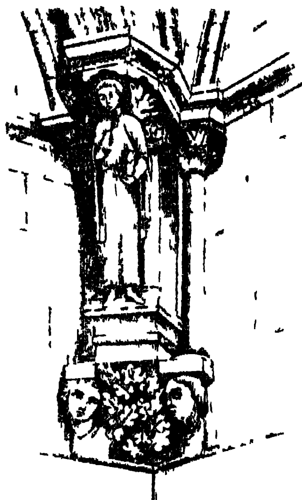
One of the earliest examples in which this transition is successfully accomplished is in the old spire at Chartres (woodcut No. 366), where the change from the square to the octagon, and from the tower to the pyramid, are managed with great felicity. The western spires of St. Stephen's abbey at Caen (woodcut No. 352), though added in the age of pointed Gothic to towers of an earlier age, are also pleasing specimens. But perhaps one of the very best in France, for its size and age, is that of St. Pierre at Caen (woodcut No. 404), uniting in itself

all the properties of a good design without either poverty or extravagance. The little lantern of Ste. Marie de l'Epine (woodcut No. 383) though small, as graceful an object as can well be designed; and the new spire at Chartres (woodcut No. 366), as before remarked, is, except as regards the defects inherent in its age, one of the most beautiful in Europe.

This feature is nevertheless, it must be confessed, rarer in France than might be expected, and is perhaps owing to many spires having been of wood, to their having been allowed to decay, and to their removal; while in other instances it is certain that the design of erecting them has been abandoned in consequence of the tower, when finished, having been found insufficient to bear their weight.

The ruined church of St. John at Soissons has two, which are still of great beauty. At Bayeux are two others, not very beautiful in themselves, but which group pleasingly with a central lantern of the Renaissance age. And at Coutances there are two others of the best age (woodcut No. 373), which combined with a central octagonal lantern make one of the most beautiful groups of towers in France. Here the pitch of the roof is very low, and altogether the external design of the building is much more in accordance with the canons of art prevalent on this side of the Channel than with those which found favour in France.

Of the earlier French lanterns, this at Coutances is perhaps the best specimen to be found. of the later class there is none finer than that of St. Ouen (woodcut No 405); and had the western towers been completed in the same character, in accordance with the original design, the towers of this church would probably be unrivalled. Even alone the lantern is a very noble architectural feature, and appropriate to its position, though some of the details mark the lateness of the age in which it was erected.



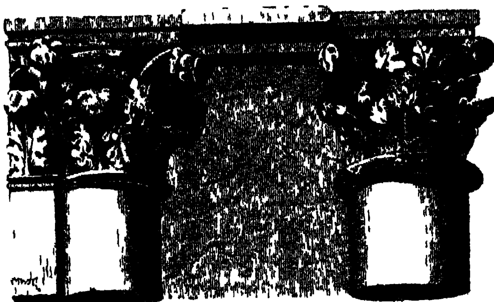
406. Corbel. From Didron, 'Annales Archéologiques.'

Notwithstanding the beauty of these examples, it must be confessed that the French architects were not so happy in their designs of spires and lanterns as they were in many other features.

It would be in vain to attempt to enumerate all the smaller decorative features that crowd every part of the Gothic churches of France, many of which indeed belong more to the department of the sculptor than to that of the architect, though the two are so intimately interwoven that it is impossible to draw the line between them. The

corbel for instance represented in woodcut No. 406 is as much a niche for the statue as a bracket to support the ends of the ribs of the vaults, and is one of the thousand instances which are met with everywhere in Gothic art of that happy mixture of the arts of the mason, the carver, and the sculptor, which, when successfully combined, produce a true artistic effect. These combinations are so numerous and so varied that it would be hopeless to attempt to classify them, or even to attempt to illustrate the varieties found in any single cathedral.[1]

The same may be said of the capitals of the pillars, which in all the best buildings vary with every shaft, and appear to have been executed after the architect had finished his labours, by artists of a very high class. In the best age, in France at least, as in the examples from Rheims, shown in woodcut No. 407, they would appear to have retained a reminiscence of the Roman Corinthian order, but to have used it with a freedom entirely their own.



407 Capitals from Rheims

Construction.

It has been shown that the exigencies of a Gothic cathedral were a stone roof, a glass wall, and as great an amount of space on the floor, as little encumbered with pillars and points of support, as could be obtained. The two first of these points have been sufficiently insisted upon in the preceding pages; the last, however, demands a few more remarks, as the success achieved by the masons in the middle ages in this respect was one of their chief merits, though it was but a mechanical merit after all, and one in which they hardly surpassed their masters the Romans. The basilica of Maxentius, for instance, covers a space of 68 000 square feet or about the average size of a French cathedral, and the points of support, or in other words the piers and walls, occupy only 6900 sq. ft., or between a 9th and a 10th part of the whole area. If we turn to the great cathedral of St. Peter's at Rome, we find the points of support occupying more than one-fourth of the whole

[1] M. Viollet Le Duc's 'Dictionaire d'Architecture' contains several hundred examples of these minor architectural details of French mediæval architecture. All are there drawn with skill, and engraved with exquisite taste. They form a wonderful illustration of the exuberance of fancy and fertility of invention of the French architects in those days. The limits of this work do not admit of more than a mere passing allusion to this most fascinating subject.

area, though built on the model, and almost a copy, of the Roman basilica. At St. Mary's at Florence they occupy one-fifth; and in St. Paul's, London, and the Pantheon at Paris, the walls and pillars occupy, in the first rather more, in the other rather less, than one-sixth. If from these we turn to some of the mediaeval examples, we find for instance at

	The whole area	Solid	Ratio	
Bourges	61,591	11,908	0.181, or between	1-5th and 1-6th.
Chartres	68,261	8888	0.130 ,,	1-8th.
Paris	64,108	7852	0.122 ,,	1-8th and 1-9th.
St. Ouen	47,107	4637	0.099 ,,	1-10th and 1-11th.

The figures, however, at Bourges include a heavy and extended porch not belonging to the original design, which if omitted would reduce the fractional proportion considerably; and if the unbuilt towers of St. Ouen were excluded, the proportion of the points of support to the area would be less than one-twelfth.

Our best English examples show a proportion of rather less than one-tenth, and though they have not the great height and wide-spreading vaults of the French cathedrals, their spires and pinnacles externally perhaps more than counterbalance this. Taken altogether it may generally be stated that one-tenth is about the proportion in the best Gothic churches of the best age. When we find it exceed this, it is obvious that the lightness of the walls and pillars has been carried to excess, and even in St. Ouen, if there is an error, it is on this side. There can be no question that a church wants solidity, and apparent as well as real strength; for, without affecting the extreme massiveness of Egyptian art, with its wonderful expression of power and durability, there is an opposite extreme far more prejudicial to true architectural effect in parading, as it were, mechanical contrivances of construction, so as to gain the utmost utilitarian effect with the least possible expenditure of means. This the Egyptians utterly despised and rejected, and heaped mass on mass, even at the expense of any convenience or use for which the building might have been designed. The French architects, on the other hand, made it their study to dispense with every ton of stone they could possibly lay aside. This system they undoubtedly carried too far, for, without looking at such extreme examples as St. Ouen or Beauvais, everywhere in France we find a degree of airy lightness and tenuity of parts destructive of many of the most important conditions of architectural excellence.

Furniture of Churches.

Little less thought and expense were probably bestowed upon what we may call the furnishing of Gothic churches than upon the fabrics themselves. Though the objects included in this denomination were altogether of a lower class of art, they were still essential parts of the whole design, and we cannot fairly judge of the buildings themselves without at least endeavouring to supply their minor arrangements.

It is not easy to do this in France, nor indeed in any part of Europe, as no one church or chapel displays at the present day all the wealth and ornament which once belonged to it.

There is scarcely a single church in France with its original altar, the most sacred and therefore generally the most richly adorned part of the whole. These have either been plundered by the Huguenots, rebuilt in the execrable taste of the age of Louis XIV., or destroyed during the Revolution.

The cathedrals of Amiens and Rouen are among the few which retain their original stalls; and the inclosure of the choir at Chartres is one of the most elaborate pieces of ornamental sculpture to be found. That at Alby has been before alluded to, and fragments of this feature still exist in many cathedrals.

The Rood-screens, or *Jubés*, which almost all French churches once possessed, are rarer than even the other parts of these inclosures. A good example of them is found in the church of the Madelaine at Troyes,



408. Rood-Screen from the Madelaine at Troyes. From Arnaud, 'Voyage dans l'Aube.'

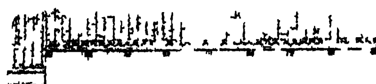
which gives a favourable idea of the richness of decoration that was sometimes lavished on these parts. Though late in age, and aiming at the false mode of construction which was prevalent at the time of its execution, it displays so much elegance as to disarm criticism. It makes us too regret the loss of the rood screens of St. Ouen's (of which we can alone judge from drawings) and of the larger cathedrals, though of these we are able to form some idea by following out the design of the lateral screens of which they formed a part.

If to these we add the altars of the minor chapels, with the screens that divided them from the nave, the tombs of wealthy prelates and nobles, the organ galleries, with their spiral stairs, and richly carved instrument cases, and all the numberless treasures of art accumulated by wealth and piety, we may form some idea of what a Mediæval cathedral really was, though scarcely one now exists in any part of Europe in an entire state.

Domestic Architecture.

It is probable that specimens remain sufficient to elucidate in an archæological point of view the progress of domestic architecture in France, and thereby to illustrate the early manners and customs of the people; but these remains are much less magnificent and less perfectly preserved than the churches and cathedrals, and have consequently received comparatively little attention.

Had any of the royal palaces been preserved to our days, or even any of the greater municipal buildings, the case might have been different. The former have, however, perished without an exception; and as regards the latter, France seems always to have presented a remarkable contrast to the neighbouring country of Flanders.







409. House at Cluny. From Gailhabaud.

No town in France proper seems to have possessed in the middle ages either a municipality of importance or a town-hall of any note. Those found within its present boundaries belonged to Flanders or Germany at the time of their erection.

Three instances are here given which will serve to illustrate the forms of the art at the three great epochs of the French Gothic style.

The first (woodcut No. 409) is from a house at Cluny, and exhibits the round arched arcade with its alternate single and coupled

columns, which arrangement was usual at that period, and of which examples are found all over the south of France, and as far north at least as Auxerre.

The second (woodcut No. 410) represents a house at Yrieix, and shows the pointed Gothic style in its period of greatest development; and although the openings are of larger extent than would be convenient in this climate, they are not more so than would be suitable,



410. House at Yrieix. (From Gailhabaud.)

while they give, in the south of France, great lightness and elegance to the façade. The third example is from the portal of the Ducal Palace at Nancy (woodcut No. 411), and is an instance of the form the style took when on the verge of the Renaissance. It is not without elegance, though somewhat strange and unmeaning, and, except as regards the balconies, the parts generally seem designed solely for ornament without any constructive or utilitarian motive.

One of the most extensive as well as one of the best specimens of French domestic architecture is the house of Jacques Cœur, at Bourges, now used as the town-hall. It was built by the wealthy but ill-used banker of Charles VII., and every part of it shows evidence of careful design and elaborate execution; it was erected too at an age before the style had become entirely debased, and as a private residence situated in a town, and therefore without any attempt at fortification, is the best that France now possesses.

The château of Meillan (Cher) is nearly a repetition of the same design, but at least a hundred years more modern.

Rouen possesses several examples of domestic architecture of a late

date, so does Paris and among others, the celebrated Hôtel de Clugny; few of the great towns are however without fragments of some sort, but hardly any are of sufficient importance to deserve separate notice or illustration.



311. Portal of the Ducal Palace at Nancy. From Dusommerard.

France is not so rich as either Germany or England in specimens of castellated architecture. This does not apparently arise from no castles having been built during the middle ages, but rather from their having been pulled down to make way for more convenient dwellings after the accession of Francis I., and even before his time, when they had ceased to be of any use. Still the châteaux of Pierrefonds and Coucy are in their own class as fine as anything to be found elsewhere. The circular keep of the latter castle is perhaps unique, both from its form and dimensions; but being entirely gutted inside, its architectural features are gone, and it is now difficult to understand how it was

originally arranged, and by what means it was lighted and rendered habitable.[1]

Tancarville still retains some of the original features of its fortifications, as do also the castles of Falaise and Gaillard.

The keeps of Vincennes and Loches are still remarkable for their height, though they hardly retain any features which can be called strictly architectural. In the South, the fortified towns of Carcassonne and Aigues Mortes, and in the North, Fougères, retain as much of their walls and defences as almost any places in Europe. The former in particular, both from its situation and the extent of its remains, gives a singularly favourable and impressive idea of the grave majesty of an ancient fortalice. But for alterations and desecrations of all sorts, the palace of the popes at Avignon would be one of the most remarkable castles in Europe: even now its extent and the massiveness of its walls and towers are most imposing.

These are all either ruins or fragments; but the castle of Mont St. Michel, in Normandy, retains nearly all the features of a Mediæval fortress in sufficient perfection to admit of its being restored, in imagination at least. The outer walls still remain, encircling the village, which nestles under the protection of the castle. The church crowns the whole, and around it are grouped the halls of the knights, the kitchens and offices, and all the appurtenances of the establishment, intermingled with fortifications and defensive precautions that must have made the place nearly impregnable against such engines of war as existed when it was erected, even apart from its sea-girt position.

[1] Viollet Le Duc, in his 'Architecture Militaire,' p. 96, gives a section of the Donjon at Coucy which, however, by no means explains how the interior was lighted, nor does it accord with what I believe I saw there.

BOOK III.

BELGIUM AND HOLLAND.

CHAPTER I.

CONTENTS.

The little kingdom of Belgium forms an architectural province as distinct and in many respects as interesting as any in Europe. Its style does not, it is true, possess that simplicity combined with grandeur which characterises the one great united effort of Central France, but it is more varied and picturesque, and as fully expressive of the affinities and aspirations of the people.

As we may learn from their language, the dominant race during the middle ages spoke a dialect very closely allied to the pure German, which proclaimed their affinity to their neighbours on the Rhine; but what their architecture tells us, though their language does not, is that there was a very strong infusion of Celtic blood in their veins which expresses itself in almost every building they erected.

Shortly after the departure of the Romans the German immigrants seem to have completely overpowered the original Belgæ, and, like true Aryans, to have divided themselves into a number of separate and independent municipalities, with no established capital and acknowledging no central authority. At times these communities did submit themselves to the rule of Dukes and Counts, but only to a very limited extent; and for particular purposes they occasionally even sought the protection of some powerful monarch; but they never relinquished their right of self-government nor fell under the power of feudal chiefs, or of a dominant hierarchy, to the same extent as prevailed throughout nearly the whole of the rest of Europe. This spirit of independence was sustained throughout the middle ages by the immense extension of commercial

industry which the fortunate position of Belgium, combined with the energy of her inhabitants, enabled her to develop. While the rest of Europe was engaged in feudal wars and profitless crusades, the peaceful burghers of the Belgian cities were quietly amassing that wealth which gave them individually such importance as free citizens of independent communities, and raised their towns, and eventually their country, to the state of prosperity it maintained till the destruction of their liberties by the Spaniards in the 16th century.

These historical circumstances go far to explain the peculiar character observable in the architectural remains of this country, in which we find no trace of any combined national effort. Even the epoch of Charlemagne passed over this province without leaving any impress on the face of the country, nor are there any buildings that can be said to have been called into existence by his influence and power. The great churches of Belgium seem, on the contrary, to have been raised by the individual exertions of the separate cities in which they are found on a scale commensurate to their several requirements. The same spontaneous impulse gave rise to the town-halls and domestic edifices, which present so peculiar and fascinating an aspect of picturesque irregularity.

Even the devastation by the Normans in the 9th and 10th centuries seems to have passed more lightly over this country than any other in the north of Europe. They burned and destroyed indeed many of the more flourishing cities, but they did not occupy them, and when they were gone the inhabitants returned, rebuilt their habitations, and resumed their habits of patient self-supporting labour; and when these inroads ceased there was nothing to stop the onward career of the most industrious and commercial community then established in Europe.

In a historical point of view the series of buildings is in some respects even more complete than the wonderful group we have just passed in review in France. In size, the cathedrals of Belgium are at least equal to those that have just been described. In general interest, no cathedral of France exceeds that of Tournay, none in gorgeousness that of Antwerp; and few surpass even those of Louvain, Mechlin, Mons, Bruges and Ghent. Notwithstanding their magnificence, however, it must be confessed that the Belgian cathedrals fail in all the higher requisites of architectural design when compared with those on their southern border. This was owing partly to the art never having been in the hands of a thoroughly organized and educated body of clergy like that of France, but more to the ethnographic difference of race, which in the first place prevented centralization, and also rendered them less keen in their appreciation of art, and less influenced by its merits. From these and other causes, their ecclesiastical buildings do not display that elegance of proportion, and that beauty of well-

considered and appropriate detail, which everywhere please and satisfy the mind in contemplating the cathedrals of France.

These remarks apply solely to ecclesiastical art. In specimens of the civil and domestic architecture of the middle ages, Belgium surpasses all the other countries of Europe, on this side the Alps, put together. Her town-halls and markets, and the residences of her burghers, still display a degree of taste and elegance unsurpassed by anything of the age, and remain to this day the best index of the wealth and independence of the communities to which they belonged.

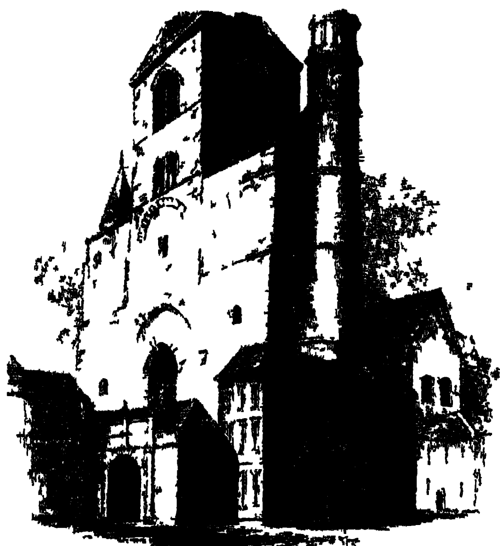
All this is of course only what might be expected from what we know of the ethnographic relations of the people. An Aryan race, loving independence, cultivating self government, and steadily following those courses which lead to material wellbeing and wealth, and underlying these a Celtic race, turbulent at times, loving art, appreciating its beauties, and clothing the municipal economies with the picturesque graces of architectural design.

The difference between this country and Central France appears to be that in the latter country the Celtic element was in excess of the Aryan, while in Belgium this condition was reversed, and this at least is precisely what we find expressed in her art.

Of the oldest churches of Belgium, a large proportion are known to us only by tradition, they having been pulled down to make way for the larger and more splendid buildings which were demanded by the continually increasing wealth and population of the cities. Of those which remain, one of the oldest and most interesting is that of St. Vincent at Soignies, built in 965 by Bruno, archbishop of Cologne, and though probably not quite finished within that century, it still retains the features of the 10th century more completely than almost any church in Europe. This church, that of St. Michele at Pavia, and the Minster at Zurich, constitute a trio very similar to one another in design and in size, and differing principally in the degree of finish they display, this being by far the rudest in construction of the three. It possessed originally a western tower and a central lantern, the upper parts of both which are modernized. The east end was square, though possessing a shrine, the tomb of the saint whose name it bears. It may have been altered, and is built up on the outside so as to render examination impossible.

Another church, only slightly more modern, that of St. Gertrude at Nivelles (woodcut No. 412), presents the same peculiarity, of having a square termination towards the east, though it seems originally to have had an apse at the west end, where the façade was carried up to a considerable height, and adorned in the centre by a square tower, flanked by a circular one on each side. The latter retain their original form, though the central tower was rebuilt in the 15th century. This church

was built in the earliest years of the 11th century, and was dedicated in 1045, the Emperor Henry IV. assisting at the ceremony. It is a first-class church with two transepts, and remains externally in all essential particulars as then built. The interior was entirely destroyed in the middle of the last century which is a very great loss, although the new arrangement which has replaced it is in itself remarkably well designed.

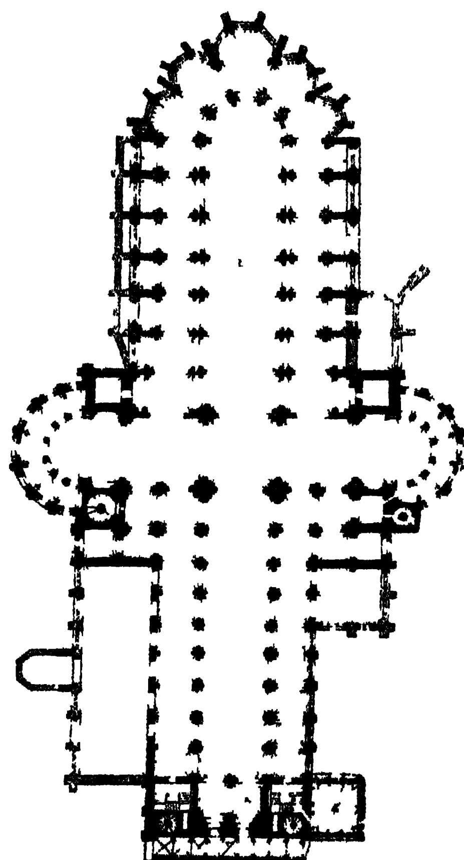


View of West End of Church at Nivelles. From a Sketch by the Author.

Passing over some minor examples, we come to the cathedral of Tournay, to the architect and artist the most interesting of the province. It is a first-class cathedral more than 400 ft in length internally, and covering with its dependencies an area of 62,525 ft. It consists of a nave, dedicated in 1066; of a transept built about the year 1146; the choir, which formed part of this arrangement, was dedicated in 1213, but gave place about a century afterwards to that now standing, which was dedicated in 1338; so that within itself it contains a complete history of the style; and though there is no doubt considerable incongruity in the three specimens here brought together, as they are the best of their respective classes in Belgium, the effect is not unpleasing, and their arrangement fortunate, inasmuch as entering by the western door, you pass first through the massive architecture of the 11th to the bolder and more expanded features of the 12th century, a fitting vestibule to the exaggerated forms which prevailed during the 14th. In the woodcut (No 414) the three styles are represented as they stand; but it would require far more elaborate illustration to do justice to the beauty of the deeply galleried nave, which surpasses any specimen of Norman architecture, but which is here eclipsed by the two remaining apses of the transept. These, notwithstanding a certain rudeness of detail, are certainly the finest productions of their age, and are as magnificent pieces of architecture as can be conceived. The choir is the least satisfactory part of the whole; for though displaying a certain beauty of proportion, and the most undoubted daring of construction, its effect is frail and weak in the extreme. Still, if the

tracery were restored to the windows, and these filled with painted glass, great part of this defect might be removed. At the best, the chief merit of this choir is its clever and daring construction, but even in this the builder miscalculated his own strength, for it was found necessary to double the thickness of all the piers after they were first erected. This addition would have been an improvement if part of the original design, but as it is it appears only to betray the weakness which it was meant to conceal.

It is by no means clear that originally there were any entrances at the west front, at least there certainly was no central doorway, and probably the principal entrances were, as in most German churches, under lateral porches.

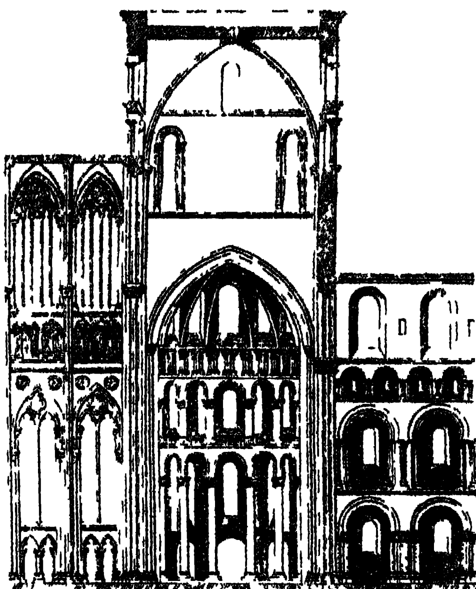


[illegible] Plan of Cathedral at Tournay. Scale 100 ft. to 1 in.

Externally, the west front had neither the flanking towers of the Norman church nor the frontispiece usual in Germany, but terminated in a gable the height of the wooden roof of the nave. The original church was triapsal, and a large square tower adorned the intersection of the nave and transept, which was originally surrounded by six tall square towers, two belonging to each of the apses. Four of these still exist, and with the remaining part of the central tower form as noble a group as is to be found in any church of this province. In its triapsal state, its superior dimensions and the greater height of its towers must have rendered it a more striking building than even the Apostles' Church at Cologne, or indeed any other church of its age.

Besides the churches already described, there are a considerable number in Belgium belonging to the 11th century, such as St. Bartholomew at Liége, St. Servin's, Maestricht, the church at Ruremonde (almost an exact counterpart of the Apostles' Church at Cologne), and others of more or less importance scattered over the country. They almost all possess

the peculiarity of having no entrance in their west fronts, but have instead a massive screen or frontispiece surmounted by two or three towers. This was the arrangement of the old church of St. Jacques at Liege. The church of Notre Dame de Maestricht presents a somewhat exaggerated example of this description of front (woodcut No. 415). It is difficult to explain the origin of this feature, nor have we any reason to regret its abandonment. There can be no doubt that the proper place for the principal entrance to a church is the end opposite the altar, which this screen entirely barred.



Section of Central Portion of Church at Tournay, looking South. Scale 50 ft. to 1 in.

Among the smaller antiquities of this age, none are perhaps more interesting than the little chapel of St. Sang, at Bruges, built by Thierry of Alsace, on his return from the Holy Land, A.D. 1150; it is a small double chapel, of a form very common in Germany, but less ornate than these generally were. At one angle of it are two spires, represented in woodcut No. 416; the more slender of these would not excite remark if found in Cairo or Aleppo, so exactly does it take the Eastern form; the other, on the contrary, seems to belong to the 16th or 17th century: it is only one, however, of the numerous instances that go to



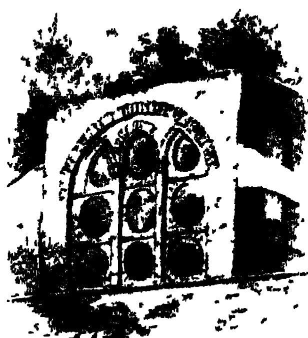
415. West Front of Notre Dame de Maestricht. From Schaye's 'Belgium.'

prove how completely art returned, at the period called the Renaissance, to the point from which it started some four or five centuries earlier. It returned with something more of purity of detail and better construction, but unfortunately without that propriety of design and grandeur of conception which mark even the rude buildings of the first *naissance* of Gothic art.



416. Spire of the Chapel of St. Sang, Bruges. From a Sketch by the Author.

Belgium is rich in small specimens of transitional architecture, and few of her more extensive ecclesiastical establishments are without some features of this class often of great beauty. Their age has not yet, however, been determined with anything like precision by the Belgian antiquaries; but on the whole, it seems that in this, as in most other respects, this country followed the German much more closely than the French type, hesitating long before it adopted the pointed arch, and clinging to circular forms long after it had familiarly employed it, oscillating between the two in a manner very puzzling and rendering more care necessary in determining dates than in most other parts of Europe. Besides this none of the Belgian buildings have yet been edited in such a manner as to afford materials for the establishment of any certain rule. Perhaps the most interesting specimen of the transitional period, and certainly one of the most beautiful ruins in the country, is the abbey church of Villers, near Genappe a building 338 ft. in length by 67 in width, built with all the purity of what we would call the Early English style, but with a degree of experimental imperfection in the tracery of which I hardly know an example elsewhere. The representation here given (woodcut No. 417) of one of the windows of the transept will explain this; throughout it the tracery consists of holes cut into slabs; yet this church is said to have been commenced in 1225, and only finished in 1276. In Germany such a date would be probable; in France a similar specimen would be assigned to a period from 70 to 100 years earlier.



417. Window in Church at Villers, near Genappe. From a Sketch by the Author.

Among the many efforts made in Belgium to get rid of the awk-

wardness of the pointed form for windows, was that in the choir of Notre Dame de la Chapelle, at Brussels (1216?), where the circular tracery is inserted in a circular-headed window, producing a much more pleasing effect, both internally and externally, than the pointed form, except with reference to the vault, with which it is so little in accordance that the experiment seems to have been abandoned, and no attempt made afterwards to renew it.

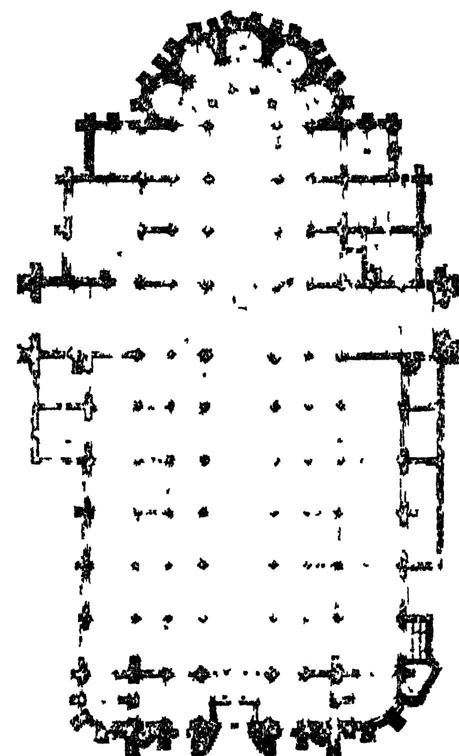
Besides those already mentioned, Belgium possesses about twenty first-class churches of pointed architecture, all deserving attentive consideration, some of them being almost unrivalled edifices of their class. Among the earliest of these is the cathedral of Liège, begun in 1189, exhibiting the style in great purity. It has no western entrance, but, like St. Croix, St. Jacques, and all the principal churches of this city, is entered by side porches.

A little later we have the eastern parts of St. Gudule, Brussels (A.D. 1220), and two other very beautiful churches: Notre Dame de Tongres (1240), and St. Martin, Ypres (1254). The latter is perhaps the purest and best specimen of the Gothic of the 13th century in Flanders; and of about the same age is the beautiful church of N. D. de Dinant. These are almost the only important specimens of the contemporary art of the 13th century which still excites our admiration in all the principal cities of France. Almost all the great cathedrals in that country belong to this age, which was also so prolific of great buildings in England. But Belgium does not seem to have shared to any great extent in the impulse then given to church architecture. Her buildings are spread pretty evenly over the whole period from the 10th to the 16th century, as the steadily growing wealth of the country demanded them, and but little influenced by the great political oscillations of her neighbours.

In the next century we have N. D. de Huy (1311), the beautiful parish church at Aerschot (1337), and N. D. de Hal (1341) – small but elegant places of worship. The two crowning examples, however, of this age are N. D. of Antwerp (1352-1411), and St. Rombaut, Malines. The choir of this latter church was dedicated in the year 1366, having been commenced about the same time as that at Antwerp, but the nave was not erected till a century afterwards (1456-1464), and the tower was not carried even to its present height till the 16th century.

Antwerp cathedral is one of the most remarkable churches in Europe, being 390 ft. long by 170 in width inside the nave, and covering rather more than 70,000 sq. ft. As will be seen by the plan (woodcut No. 418), it is divided into seven aisles, which gives a vast intricacy and picturesqueness to the perspective, but there is a want of harmony among the parts, and of subordination and proportion, sadly destructive of true architectural effect; so that notwithstanding its size, it looks much smaller internally than many of the French cathedrals of far smaller dimen-

sions. If the length of the nave had been divided into ten bays instead of only seven, and the central aisle had been at least 10 ft. wider, which space could easily have been spared from the outer, the apparent size of the church would have been greatly increased; but besides this, it wants height, and its details show a decadence which nothing can redeem.



[illegible] Plan of the Cathedral at Antwerp. Scale 100 ft. to 1 in.

Its magnificent portal, with its one finished tower 406 ft. in height, was commenced in 1422, but only finished in 1518, and is more in accordance with the taste of the 16th century than of the original design. Although from the lateness of its date it is impossible to be satisfied either with the outline or the detail, it is still so gorgeous a specimen of art and towers so nobly over the buildings of the city, as to extort our admiration, and a man must have very little feeling for the poetry of art who can stop to criticise it too closely.

The spire at Chartres (woodcut No. 360) is more elegant in outline, but the design of its base does not accord with that of the upper part, and its effect is injured by the great height of the building to which it is attached. That at Strasbourg is very inferior in outline, so is St. Stephen's at Vienne, and it is not quite clear that the open-work spires of Friburg and Cologne are not mistakes. The base of the Antwerp spire is perfect in proportion and good in detail, the caprice begins only when near the top, where it constructively can do no harm, and is much less offensive than it would be lower down. It is not perfect, but taking it altogether it is perhaps the most beautiful thing of its kind in Europe.

It is a great question if the second spire were completed as originally designed it would add to, or detract from, the beauty of the composition. An unfinished design is always unpleasing, but, on the whole, twin spires, without a very prominent central object, do not seem a pleasing form of design.

The church of St. Rombaut at Malines, though very much smaller than that at Antwerp, being only 300 ft. in length internally, and, including the tower, only 385 ft. over all externally, is still a far more satisfactory church in every respect. Indeed, it is one of the finest of those which have round pillars in the nave instead of the clustered columns which give such beauty and such meaning to most of the churches of this age. It was originally designed to have one western spire, which, if completed, would have risen to the height of nearly 550 English feet. It was never carried higher than to the commencement of the spire, 320 ft., and at that height it now remains. Even as it is, it is one of the noblest erections of the middle ages, the immense depth of its buttresses and the boldness of its outline giving it a character seldom surpassed.

St. Pierre's, of Louvain, is a worthy rival of these two; for though perhaps a century more modern, or nearly so, it seems to have been built at once on a uniform and well digested plan, which gives to the whole building a congruity which goes far to redeem the defects in its details. The façade, which would have rendered it the noblest building of the three, has never been completed. It was designed on the true German principle of a great western screen, surmounted by three spires, the central one 535 ft. in height, the other two 430 ft. each.[1]

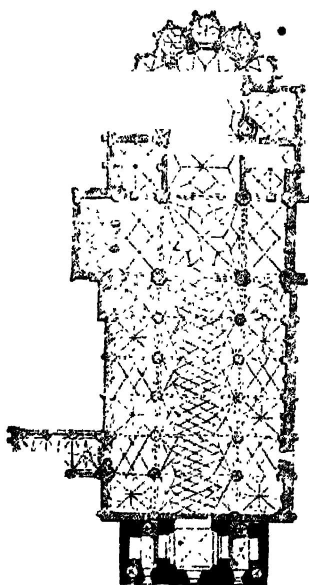
Where sufficient width can be obtained, this seems a legitimate and pleasing form of composition. Twin towers like those designed from Cologne, Strasburg, and Antwerp, would overpower any church and are wanting in variety. Two small towers, with one taller between, is a more pleasing composition, though equally destructive to the effect of the building behind. The English plan of three spires, as at Litchfield, is by far the most pleasing arrangement, but this form the continental architects never attempted on an extensive scale, and consequently the single spire, as at Malines or Ulm, is perhaps the most satisfactory solution of the difficulty. If not that, then the triple spired façade designed for Louvain would probably be the best.

Those above enumerated are certainly the finest specimens of Belgian ecclesiastical art. Almost all the churches erected afterwards, though some of them very beautiful, are characterised by the elaborate weakness of their age. Among these may be mentioned St. Gommaire, at Lierre, commenced A.D. 1425, but not completed till nearly a century afterwards; and St. Jacques at Antwerp, a large and gorgeous church, possessing size and proportion worthy of the best age, but still unsatisfactory, from the absence of anything like true art or design pervading it. The same remarks do not apply to St. Waudru at Mons, 1450-1528, one of the very best specimens of its age—pleasing in proportion and

[1] A beautiful drawing of this façade to a very large scale still exists in the town-hall of the city, as well as a model in stone, from which the intended effect may be seen.

elegant in detail. Internally a charming effect of polychromy is produced by the cold blue colour of the stone, contrasted with the red brick filling in of the vault; this contrast being evidently a part of the original design. By some singular freak of destiny it has escaped whitewash, so that we have here one instance at least of a *true* mode of decoration, and to a certain extent a very good one. The exterior of this church is also extremely pleasing for its age. Its tower and spire are unfortunately among those that we know only from the original drawings, which are still preserved, and show a very beautiful design.

Of about the same age is St. Jacques at Liège (woodcut No. 419), a church of the second class in point of size, being only 254 ft. in length internally, by 92 ft. across the nave. At the west end it still retains the screen of the old church, marked darker on the plan. The principal entrance is a splendid porch of flamboyant design on the north. The east end may be said to be a compromise between the French and German methods, for it is not a chevet, inasmuch as it has not the circumscribing aisle, while its circlet of chapels prevents its being considered as a German apse. Altogether the plan is characteristic of its locality on the borders of France and Germany, for in it we find mixed together most of the peculiarities of both countries. For its age too the details are generally good, but as construction was no longer the ruling motive, confusion is the result. The most remarkable thing about the church is, that it is one of the very few churches in Europe which retain their polychromatic decorations in anything like completeness, especially on the roof. The paintings, however, are of late date, bordering on the cinque-cento period; yet the effect produced, though gorgeous, is remarkably pleasing and beautiful, and is in itself sufficient to set at rest the question as to the expediency of painting the vaults of churches, or leaving them plain. My own conviction is, that all French vaults were once painted to as great an extent as in this case. Our English architects often probably depended on form and carving for effect, but on the Continent this was not so.



Plan of St. Jacques, Liège. From Weale's 'Architectural Papers.' Scale 100 ft. to 1 in.

Of the remaining churches, St. Bavon's at Ghent, and St. Martin's at Liège, both commenced, as they now stand, in the middle of the 16th century, are among the most remarkable, and for their age are wonderfully free from the vices of the Renaissance. At the same age in

France, or even in England, they would have been Italianized to a far greater extent.

There is scarcely a second-rate town or even a village in Belgium that does not possess a church of more or less importance of the Gothic age, or one at all events possessing some fragment or detail worthy of attentive study. This circumstance is easily explained, from the fact that during the whole of the Mediæval period, from the 10th to the 16th century, Belgium was rich and prosperous, and since that time till the present comparatively so poor as to have had neither ambition to destroy nor power to rebuild. Considering its extent, the country is indubitably richer in monuments than France, or perhaps than any other country in Europe; but the architecture is neither so good or satisfactory nor of so high a class.

CHAPTER II.

CONTENTS.

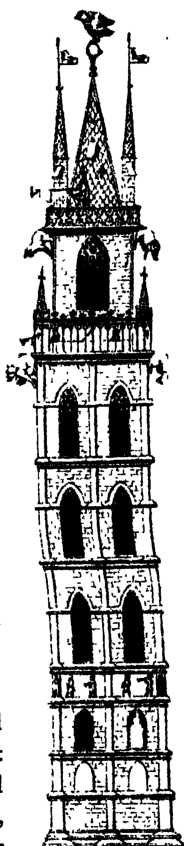
WHATEVER opinion we may form as to her ecclesiastical edifices, the real architectural pre-eminence of Belgium consists in her civil, or rather her municipal buildings, which surpass those of any other country. None of these are very old, which is easily accounted for. The rise of commercial enterprise in Belgium, though early compared with other European nations, was more recent than the age of military and ecclesiastical supremacy, and men were consequently obliged to erect castles to protect their property against robbers, and churches for their religious wants, before they could think of council halls or municipal edifices.

In the 12th century, when the monarchy of France was consolidating itself, the cities of Belgium were gradually acquiring that wealth and those rights and privileges which soon placed them among the independent and most prosperous communities of Europe. One of the earliest architectural expressions of their newly acquired independence was the erection of a belfry. The right of possessing a bell was one of the first privileges granted in all old charters, not only as a symbol of power, but as the means of calling the community together, either with arms in their hands to defend their walls, to repress internal tumults, for the election of magistrates, or for deliberation on the affairs of the commonwealth. The tower too in which the bell was hung was a symbol of power in the middle ages, and, whether on the banks of the Scheldt or the Po, the first care of every enfranchised community was to erect a "tower of pride" proportionate to their greatness.

The tower moreover was generally the record-office of the city, the place where the charters and more important deeds were preserved secure from fire, and in a place sufficiently fortified to protect them in the event of civic disturbances.

All these uses have passed away, and most of the belfries have either fallen into neglect or been removed or appropriated to other purposes. Of those remaining, the oldest seems to be that of Tournay, a fine tower, though a good deal altered and its effect destroyed by more modern additions.

The belfry at Ghent was commenced in 1183, but the stone-work was only completed in 1337. In 1376 a wooden spire was placed upon it, making up the height to 237 ft. This has been recently taken down in order to complete the tower according to the original design, which, like that of most of the unfinished buildings of Belgium, has been carefully preserved. When finished it will be about 300 ft. in height, and one of the finest belfries in the country. The woodcut No. 420 is a reduction of the original drawing, which, though not so perfect as some others, gives a fair idea of what it is intended to be.



420. Belfry at Ghent. From the original drawing.

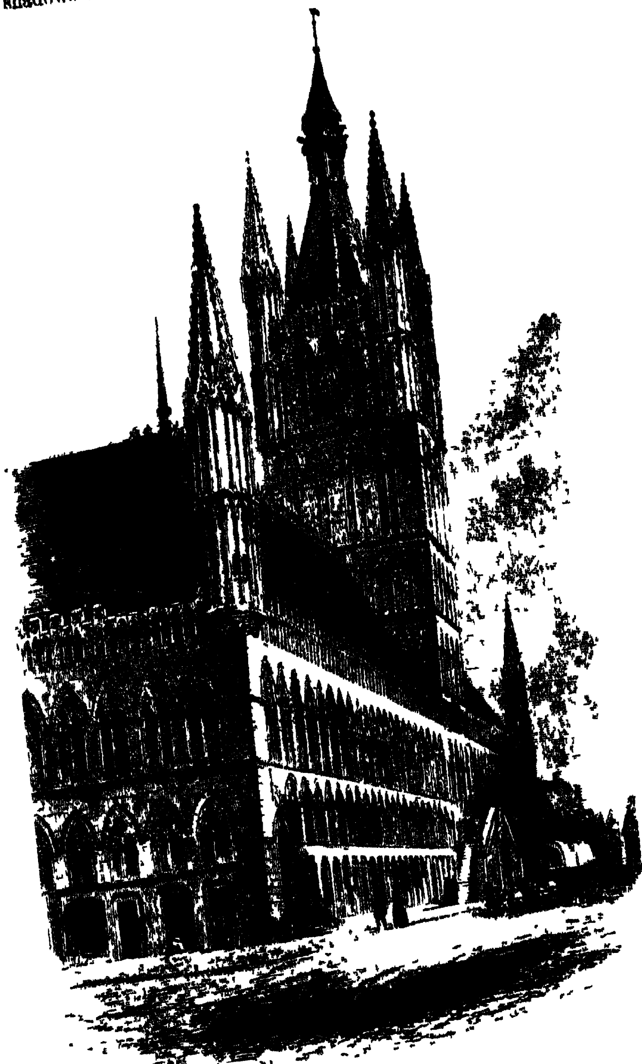
The belfry of Brussels was one of the finest in the country, but after various misfortunes it fell in 1714, and is only known now by a model still preserved in the city.

At Ypres and Bruges the belfries form part of the great halls of the city. Those at Lierre, Nieuport, Alost, Furnes, and other cities, have been all more or less destroyed by alterations, and are more interesting to the antiquary than to the architect; moreover, like the cities themselves, they never could have been of the first class, or remarkable for any extraordinary magnificence.

The great municipal halls, which are found in all the principal cities of Belgium, are of three classes: 1. Town-halls—the municipal senate-houses and courts of justice 2. Trade-halls or market-houses, the principal of which were cloth-halls, cloth having been the great staple manufacture of Belgium during the middle ages. And lastly Guildhalls, or the separate places of assembly of the different guilds or associated trades of the cities.

As far as existing examples go, it would appear that the trade-halls were the first erected. The cloth-hall at Ypres is by far the most magnificent and beautiful of these, as also the earliest. The foundation stone was laid in 1200 by Baldwin of Constantinople, but it was not finished till 104 years afterwards. The façade is 440 ft. in length, and of the simplest possible design, being perfectly straight and unbroken from end to end. The windows of each storey, all of one design, are repeated, not only along the whole front, but at each end. Its height is varied by the noble belfry which rises from its centre, and by a bold and beautiful pinnacle at each end. The whole is of the pure architecture of the 13th century, and is one of the most

majestic edifices of its class to be seen anywhere. It might perhaps have been improved by the greater degree of expression and the bolder shadows which lines brought down to the ground would have



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Cloth hall at Ypres

given to it, but as it is, it is extremely pleasing from its simplicity and the perfect adaptation of its exterior to its internal arangements. These consist of one vast hall on the ground-floor, supported by several

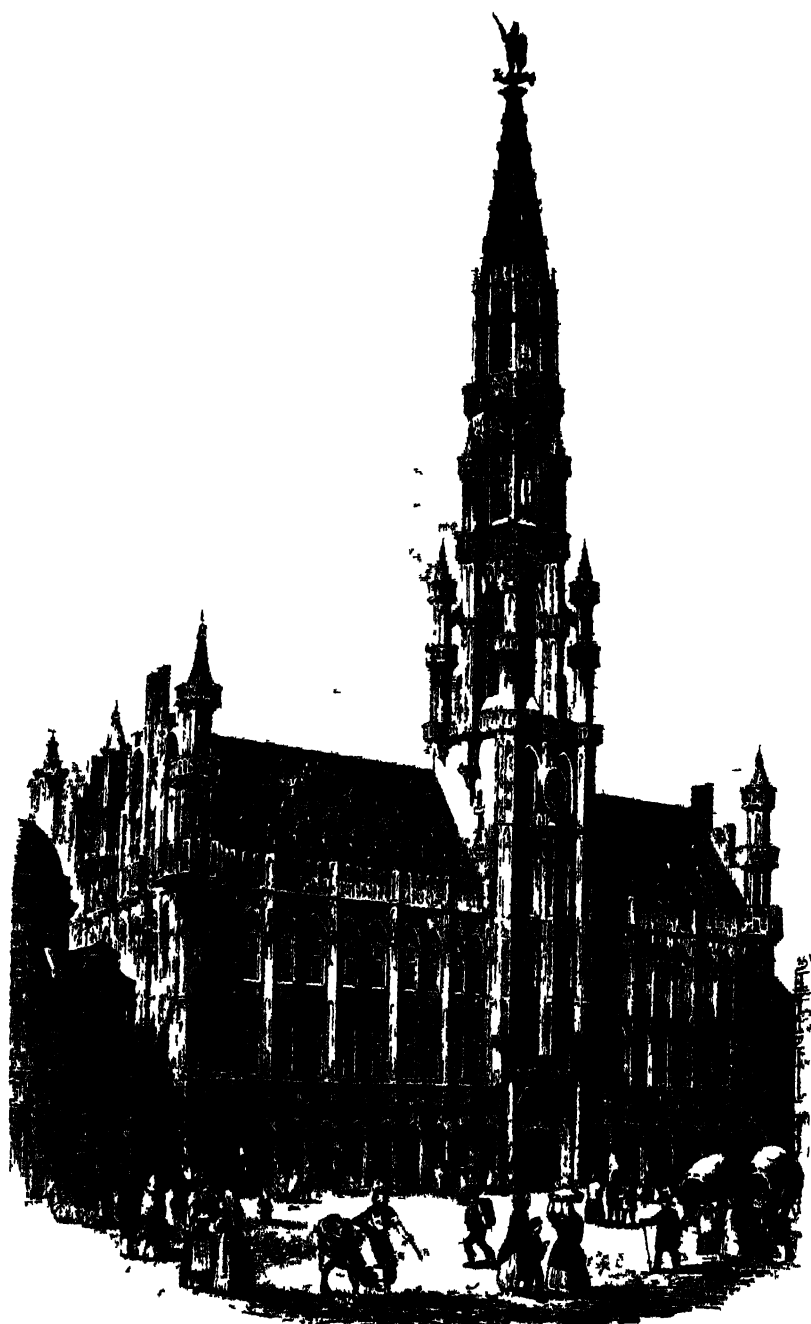
ranges of columns, with long galleries and great halls above it for the use of the trade to which it was appropriated.

The town-hall at Bruges is perhaps the oldest building erected especially for that purpose in Belgium, the foundation-stone having been laid in 1377. It is a small building, being only 88 ft. in front by 65 in depth, and of a singularly pure and elegant design. Its small size causes it to suffer considerably from its immediate proximity to the cloth-hall and other trade-halls of the city. These, grouped with the belfry in their centre, occupy one end of the great Place, and, though not remarkable for beauty, either of design or detail, still form a most imposing mass. The belfry is one of the most picturesque towers in the country. Its original height was 356 ft., which was diminished by about 60 ft. by the removal of the spire in 1741, though it still towers above all the buildings of the city, and in that flat country is seen far and wide.

The finest of the town halls of Belgium, built originally as such, is that of Brussels (woodcut No. 422), commenced in 1401, and finished in 1455. In dimensions it is inferior to the cloth hall at Ypres, being only 264 ft. in length by about 50 in depth, and its details, as may be supposed from its age, are less pure, but the spire that surmounts its centre, rising to the height of 374 ft., is unrivalled for beauty of outline and design, by any spire in Belgium, and is entitled to take rank among the noblest examples of the class in Europe. Notwithstanding its late age, there is no extravagance, either in design or detail, about it; but the mode in which the octagon is placed on the square, and the outline broken and varied by the bold and important pinnacles that group around it, produce a most pleasing variety, without interfering with the main constructive lines of the building. The spire, properly so called, is small, so that its open work tracery is pleasing and appropriate, which is more than can be said of some of its German rivals, in which this mode of ornamentation is quite unsuited to the large scale on which it is attempted.

Next in importance to this is the well-known and beautiful town hall at Louvain (1448 1463), certainly the most elaborately decorated piece of Gothic architecture in existence. Though perhaps a little overdone in some parts, the whole is so consistent, and the outline and general scheme of decoration so good, that little fault can be found with it. In design it follows very closely the hall at Bruges, but wants the tower, which gives such dignity to those at Brussels and Ypres.

Towards the end of the same century (1481) the inhabitants of Ghent determined on the erection of a town-hall, which, had it ever been finished, would have surpassed all the others in size and richness, though whether it would have equalled them in beauty is more than doubtful. After a century of interrupted labour the design was abandoned before it was more than two-thirds completed, and now that age has softened down its extravagances, it is a pleasing and perhaps



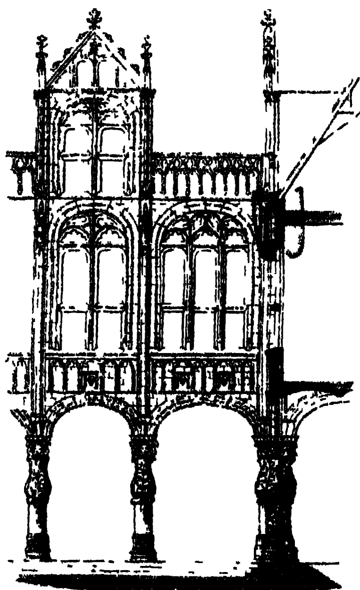
12. View of Town-hall, Brussels.

beautiful building. Nothing, however, can exceed the extent of tormented and unmeaning ornament that is spread over every part of it, showing great richness certainly, but frequently degenerating into very bad taste. The architecture of the hall at Ypres, though only half or one-third as costly in proportion to its extent, is far nobler and more satisfactory than this ever could have been. But when erected the day of true art was past, and its place was sought to be supplied by extent of ornament.

The same remarks apply to the town-hall at Oudenarde, a building evidently meant as a copy of that at Louvain, but having combined with it a belfry, in imitation of that at Brussels. The result is certainly rich and pleasing in general effect; but the details incidental to its age (1525) have marred the execution, and given to the whole a clumsiness and a flimsiness that greatly detract from its beauty. Even the effect of the belfry is spoiled by the temptation to exhibit a masonic trick, and make it appear as if standing on the two slight pillars of the porch. It is clever, but apparent stability is as necessary to true architectural beauty as real stability is to the dignity of the art.

Among the smaller halls that of Mons is perhaps the most elegant, and is very similar to that of St. Quentin, which, though now in France, was a Flemish city at the time of its erection.

In the days of her magnificence Mechlin attempted the erection of a splendid hall, which was intended to rival those of any of the neighbouring towns. Civic troubles, however, put a stop to the work before it was carried so far as to enable us now even to determine what the original design may have been.



423. Part of the Bishop's Palace, Liège. No scale.

Among minor edifices of the same class may be mentioned the cloth-halls of Louvain and Ghent, both of the best age, though small: and the Boucheries or meat-markets of Diest, Ypres, Antwerp, and other towns—the boatmen's lodge at Ghent, and the burgesses' lodge at Bruges, besides numerous other scattered memorials of civic magnificence that meet one everywhere in this great emporium of mediæval industry.

Of palaces, properly so called, little remains in Belgium worthy of notice, unless it be the palace of the Bishop of Liège (woodcut No. 423),

which, as far as size and richness of decoration are concerned, almost deserves the reputation it has attained. It was, however, unfortunately commenced at an age (1508) when the Gothic style was all but extinct, and it is impossible to admire its stunted columns and flat arches in such immediate proximity to the purer works of the preceding centuries.

Of the same age and style was the Exchange at Antwerp (1515). This building was more pleasing in its details, the merchants having apparently clung longer to the spirit that animated their forefathers than the clergy, who earlier felt the influence of the Italian Renaissance. Neither of them can be called in strictness Gothic buildings, for the true spirit of that art had perished before they were commenced.

Many of the private dwelling-houses in the Flemish cities are picturesque and elegant, though hardly rising to the grade of specimens of fine art; but when grouped together in the narrow winding streets, or along the banks of the canals, the result is so varied and charming that we are inclined to ascribe to them more intrinsic beauty than they really possess as individual designs. Most of them are of brick, and the brick being used undisguisedly, and the buildings depending wholly on such forms as could be given to that material, they never offend our taste by shams, and the honest endeavour of the citizens to ornament their dwellings externally, meets here with the success that must always follow such an attempt. To exhibit this class of structures adequately would require far more illustration than is compatible with a work like the present, and would occupy the space that more properly belongs to buildings of a larger and more monumental class, and of higher pretensions to architectural effect, both in their design and the manner in which it is carried out.

CHAPTER III.

HOLLAND.

CONTENTS.

The moment we pass the boundary line which separates Belgium from Holland, we feel that we have stepped at once into a new architectural province. At last we have got among a people of pure Aryan or Teutonic race, without one trace of Turanian or Celtic blood in their veins, and who consequently carry out their architectural designs with a matter-of-fact simplicity that is edifying, if not charming. It is not that the kingdom of Holland is deficient in the possession of mediæval churches—far from it she possesses as many Gothic cathedrals as we do, and their average dimensions are equal to those which adorn this island, they belong also to the same age; but the result is wonderfully different.

The Dutch did not work out any part of the style for themselves; they attempted no novelties, and did not even give themselves the trouble to understand perfectly the style they were employing. They were then, as now, a religious people, and wanted churches, and built them according to the only pattern then available. No one can say that their churches were not perfectly adapted to the form of worship then prevalent, and in dimensions and dignity perfectly suited to the wants of the communities who erected them. Notwithstanding all this, they are only vast warehouses of devotion, and are utter failures as works of art.

If any one wishes to perfectly realize the difference between mere ornamental construction and ornamental construction which is also ornamented, he cannot do better than study carefully the design of these Dutch churches. Their dimensions are frequently grand, their proportions generally pleasing, and the subordination of the parts to each other often most judicious. On the other hand, the pillars of the pier arches are almost always round—the vaulting shafts poor, and never carried to a sufficient resting-place—the windows want mullions and tracery—the vaults are domed and stilted—the ribs lean—and everything in fact is pared down as closely to mere utility as is possible in such a style. In France or in England, in the same age, every

stone would have spoken out and had a meaning; and every detail would not only have been in its right place, but would have expressed the reason of its being there, and the purpose to which it was applied.

To the want of artistic feeling, or real knowledge of the style which is shown in the designs of the Dutch churches, must be added the inferiority of the material in which they were carried out. Some are wholly of brick, and few are entirely of stone, though most of them have an admixture of the nobler material —and where brick is employed, without great care and artistic feeling, the result is generally poor and unsatisfactory.

Judged by their dimensions alone, the churches of Holland ought to be almost as interesting as those of Belgium, for they are generally large, with lofty and well proportioned aisles, and transepts which project boldly. They have frequently tall and not ungraceful western towers, and often large windows filled with good tracery, though mostly of a late age. Notwithstanding all these requisites of a perfect Gothic church, there is not one of them that must not be considered a failure, from the causes just mentioned.

These remarks apply especially to the great churches at Haarlem, Leyden, and Rotterdam, two at Amsterdam, and the two at Delft, the older of which contains some details worthy of attention. That at Gouda is remarkable for the beauty of its painted glass, though the architecture of the church is very unworthy of so brilliant an ornament.

The church at Dort is older than most of these, and has a venerable look about it that hides many of the faults of its architecture, but it will not bear examination.

The churches of Utrecht and Bois le Duc are to some extent exceptions to the general poverty of design which characterises the churches of Holland. This is owing probably to the situation of these two churches on the verge of the province, and their proximity to Belgium and Germany. That at Utrecht consists at the present day of merely two fragments - a choir and a tower, the nave that joined them having been destroyed by a storm and never replaced. What remains is good late German, though it is much disfigured by modern additions. The church at Bois le Duc is still a large and richly ornamented church, with a good deal of stone-work about it; but being too large for the decaying town in which it stands, it has suffered much from neglect, and is now in a very ruinous condition.

The church at Kampen, on the Zuider Zee, is better than most others, and many of the smaller churches on the borders of the province are worthy of more attention than they have received. There are few abbeys or monastic buildings of any importance to be found, such establishments never having been suited to the industrious character of the Dutch people.

Bad as are the churches of Holland, the town-halls and civic build-

ings are even worse. There is not, in the whole of the Netherlands, one that can be classed as a work of fine art. Even age has been unable to render them tolerably picturesque; nor are there in the province any belfries with their picturesque forms, nor any palaces worthy of note, which belong to the middle ages. The older dwelling-houses are sometimes picturesque and pleasing, but less so than those of Belgium. Most of them are unpretending specimens of honest building, the result of which is often satisfactory; and combined, as they generally are in Dutch towns, with water and trees, and with the air of neatness and comfort which pervades the whole, we sometimes scarcely feel inclined to quarrel with the absence of higher elements of art when so pleasing a result has been produced without them.

Notwithstanding all this, it might be well worth while to give one or two examples of the plans and illustrations of some of the churches in Holland in a work like the present, not so much for their own sake, as for comparison with other buildings, but the materials do not exist. The Dutch have shown the same indifference to the conservation of their mediæval monuments which their forefathers exhibited in their erection, and not one has been edited in modern times in such a manner as to admit of being quoted[1] The history of this variety remains for the present to be written, but fortunately it is one of the least important of its class.

[1] A large work was commenced a few years ago on the church at Bois le Duc, but after the first numbers it seems to have come to grief, and has not been since heard of, in this country at least.

BOOK IV.

GERMANY.

CHAPTER I.

INTRODUCTORY

CONTENTS

Historical notice — Circular churches — Aix-la-Chapelle — Nimeguen — Bonn

CHRONOLOGY

	A.D.		A.D.
Charlemagne	768 to 814	Conrad III., Hohenstaufen	1138
Conrad I. of Franconia	911	Frederick Barbarossa	1152
Henry the Fowler	918	Henry VI.	1190
Otho I., or the Great	936	Frederick II.	1212
Otho II.	973	Conradin	1250
Otho III.	983	Rudolph of Hapsburgh	1273
Henry II.	1002	Albert of Austria	1298
Conrad the Salique	1024	Louis of Bavaria	1314
Henry III.	1039	Charles of Luxemburg	1347
Henry IV.	1056	Frederick IV.	1410
Henry V.	1106	Maximilian I.	1493
Lothaire II.	1125	Charles V.	1519 to 1557

As might be expected from the known difference of race, the history of architecture in Germany differs in the most marked degree from that of France, and instead of a number of distinct nationalities being gradually absorbed into one great central despotism, and their individuality obliterated, as happened in that country, we find Germany commencing as a great united power under Charlemagne and the Othos, but with a strong tendency to disintegration from first to last. Had the Germans been as pure Aryans as they are sometimes supposed to be, they might under certain circumstances have resolved themselves into an aggregation of village communities under one paramount protector. The presence of a Celtic dominion on their western frontier, always greedy for territory, and always prepared to fight either for its acquisition, or for anything else, prevented such a catastrophe as this.

But the tendency in those parts of Germany where the blood was purest was towards every city becoming an independent community, every trade an independent guild, and every lordship a little kingdom in so far as independence was concerned. All this, however, was the natural tendency of the race, and by no means involved the cutting up of the country into separate architectural provinces. Had the country indeed been divided into 1000 or 1500 separate principalities and free cities, instead of one-tenth of that number, the uniformity would have been greater than it is, and from the Alps to the Baltic we should have had only one style, as was very nearly being the case during the middle ages. The greatest difference that strikes the observer at first sight, is the change of style between the buildings on the banks of the Rhine and those on the shores of the Baltic. This, however, is more superficial than real, and arose from the fact of no stone being found on the sandy plains of Prussia. The inhabitants of Northern Germany were forced to use brick, and that only, and consequently employed forms which were different from those used in stone countries, but varying from them constructively more than essentially. There may nevertheless be a certain infusion of Wendish blood in Northern Germany, which may to some extent have influenced the style, but it is not easy to trace or isolate it.

On the eastern boundary of the province a well marked ethnographic distinction may easily be detected. In Bohemia and Moravia a strong infusion of Sclavonic feeling does tincture the art, but not to its advantage. In these countries there are some very grand Gothic buildings; but they are wild and ill understood as Gothic designs, and by no means satisfy the judgment of any one who is familiar with the best examples in France or England. In Siebenburgen,[1] as might be expected, the style is still more abnormal, but it would take more trouble and more illustration to describe it than its importance deserves; for, except the cathedral at Karlsburg, it does not possess any building of great architectural magnificence. Its general characteristic is that it is more Italian than German, though not the less interesting for that very reason.

The history of Gothic architecture in Germany began practically with Charlemagne and ended with Charles V. There may be some buildings erected before the date of the first-named king, but if so, they are small and unimportant, and indeed, it seems probable that the edifices left by the Romans sufficed for the early wants of the people. Some of these, like the church at Treves, were built for Christian purposes; while others may have been in wood and have perished. Be

[1] See two papers on this subject in 'Jahrbuch der Central Commission zur Erhaltung der Baudenkmale,' vol. ii. p. 65, and vol. iii. p. 149.

that as it may, however, from the time of Charlemagne we can trace the history of the style with tolerable distinctness. A considerable impulse was given to it under the Othos (936-1002), and under the Hohenstaufens (1138 to 1268) the old round arched style reached its culminating point of perfection. If any style deserves the name of German it is this, as it was elaborated in the valley of the Rhine, with very little assistance from any other nation beyond the hints obtained from the close connection that then existed between the Germans and the inhabitants of the Valley of the Po.

With the house of Hapsburg (1273) a change came over the spirit of the country. What Germany did in the 18th century was only a repetition of what she had done in the 13th. At the latter epoch she abandoned her native literature, almost her mother tongue—to speak French and to copy French fashions, as at the earlier epoch she forsook her own noble style of art to adopt the French pointed Gothic. Had she thoroughly understood and appreciated the French style, it might have been as well; but it was foreign to her tastes, she had never worked it out from the beginning, and it soon in consequence became exaggerated, and finally degenerated into a display of tricks and *tours de force*.

By a strange perversion of historical evidence, the Germans have attempted of late years to appropriate to themselves the credit of the invention of the pointed style, calling it in consequence German architecture. The fact being that the pointed style was not only invented but perfected in France long before the Germans thought of introducing it; and when they adopted it, they did so without understanding it, and fell far short of the perfection to which it was carried by the French in all the edifices which they erected in the age of its greatest development in their own country.

On the other hand, the Germans may fairly claim the invention of the particular style which prevailed throughout Lombardy and Germany of which we are now speaking. This style, it is true, never was fully developed, and never reached that perfection of finish and completeness which the pointed style attained. Notwithstanding this, it contained as noble elements as the other, and was capable of as successful cultivation, and, had its simpler form and grander dimensions been elaborated with the same care and taste, Europe might have possessed a higher style of mediæval architecture than she has yet seen. The task, however, was abandoned before it was half completed, and it is only too probable now that it can never be resumed.

A complete history of this style, worthy of its importance, is still a desideratum which it is to be hoped the zeal and industry of German architects will ere long supply, and vindicate their national art from the neglect it now lies under, by illustrating as it deserves one of

the most interesting chapters in the history of architecture.[1] Already German writers seem to be aware that the age of the Hohenstaufens was not only the most exclusively national, but also the most brilliant period of their history. Its annals have engaged the pens of their best historians, and its poetry has been rescued from obscurity and commented upon with characteristic fulness. Every phase of their civilisation has been fully illustrated, except one—that one being their architecture, the noblest and the most living record of what they did or aspired to do, that could be left for their posterity to study. So distinctly is it their own, that, were it necessary to find for it a separate name, the style of the Hohenstaufens would be that which would most correctly describe it.

The leading characteristics of the German style are the double apsidal arrangement of plan, the multiplication of small circular or octangular towers, combined with polygonal domes, at the intersections of the transepts with the nave, and the extended use of galleries under the eaves of the roofs both of the apses and of the straight sides. The most ornamental parts are the doorways and the capitals of the columns. The latter surpass in beauty and in richness anything of their kind executed during the middle ages, and, though sometimes rude in execution, they equal in design any capitals ever invented. These only required the experience and refinement of another century of labour to qualify them to compete successfully with any part of the pointed style of architecture which succeeded their own.

[1] The work of F. Osten on the architecture of Lombardy, and that of Geier and Görz on the style in the Rhine country, combined with the works of Boisserée, have already furnished considerable materials for such a history. Both these first-named works were left incomplete, the former from the death of the author, the latter owing to the late troubles of the country.

CHAPTER II.

BASILICAS.

CONTENTS.

ST. GALL.

As just mentioned, the history of Gothic architecture in Germany commences practically with Charlemagne; and by a fortunate accident, we are able to begin our account of it by quoting from a contemporary illustration of the greatest interest and importance. In the library of the monastery of St. Gall, in Switzerland, a manuscript plan of a great monastic establishment was found by Mabillon in the 17th century, and published by him in the second volume of the 'Annals of the Benedictine Order.' The name of the author is not known, but from some dedicatory verses on the back it appears certain that it was sent to Gospertus, who was Abbot of the monastery in the beginning of the ninth century, and who in fact rebuilt the church and part of the monastic buildings between the year 820 and 830. Mabillon conjectures that the plan was prepared by Eginhard, the friend of Charlemagne, and who was also the director of his buildings. It is by no means improbable that this may have been the case, though it does not seem possible to prove it.

It is a matter of extreme difficulty to decide how far this plan was followed in the erection of either the church or monastery of St. Gall at this remote period, for everything there has been so altered at subsequent times, nor is it very important to enquire. The plan does not pretend to represent any particular establishment, but is a "projet" of what was then considered a perfect monastery. In this respect it resembles the plans of fortified towns which are engraved in our books of fortification representing the systems of Vauban, Coehorn, Montalembert, &c., and which, though applicable "*mutatis mutandis*" to every place, have never literally been carried out in any one. It is in fact an illustration of the Benedictine system, as applicable to Germany in the ninth century, in its completed and most perfect form, and on this account is far more interesting to us than if it had been merely a plan of any particular monastery.

The plan itself is on two sheets of parchment, and is so large (3½ by 1½ ft) that only a small portion of it can be reproduced here, and that on a reduced scale

The whole group of buildings was apparently meant to occupy a space of about 450 ft. by 300 On the north side of the church (A A) was situated the abbot's lodging (B) with a covered way into the church, and an arcade on either face his kitchen and offices being detached and situated to the eastward. To the westward of this was the public school (C) and still farther in the same direction the hospitium or guest house (D), with accommodation attached to it for the horses and servants of strangers

Beyond the abbot's house to the eastward was the dispensary (E), and beyond that again the residence of the doctor (F), with his garden for medical herbs and simples at the extreme corner of the monastery

To the eastward of the great church was situated another small double apse church (G) divided into two by a wall across the centre

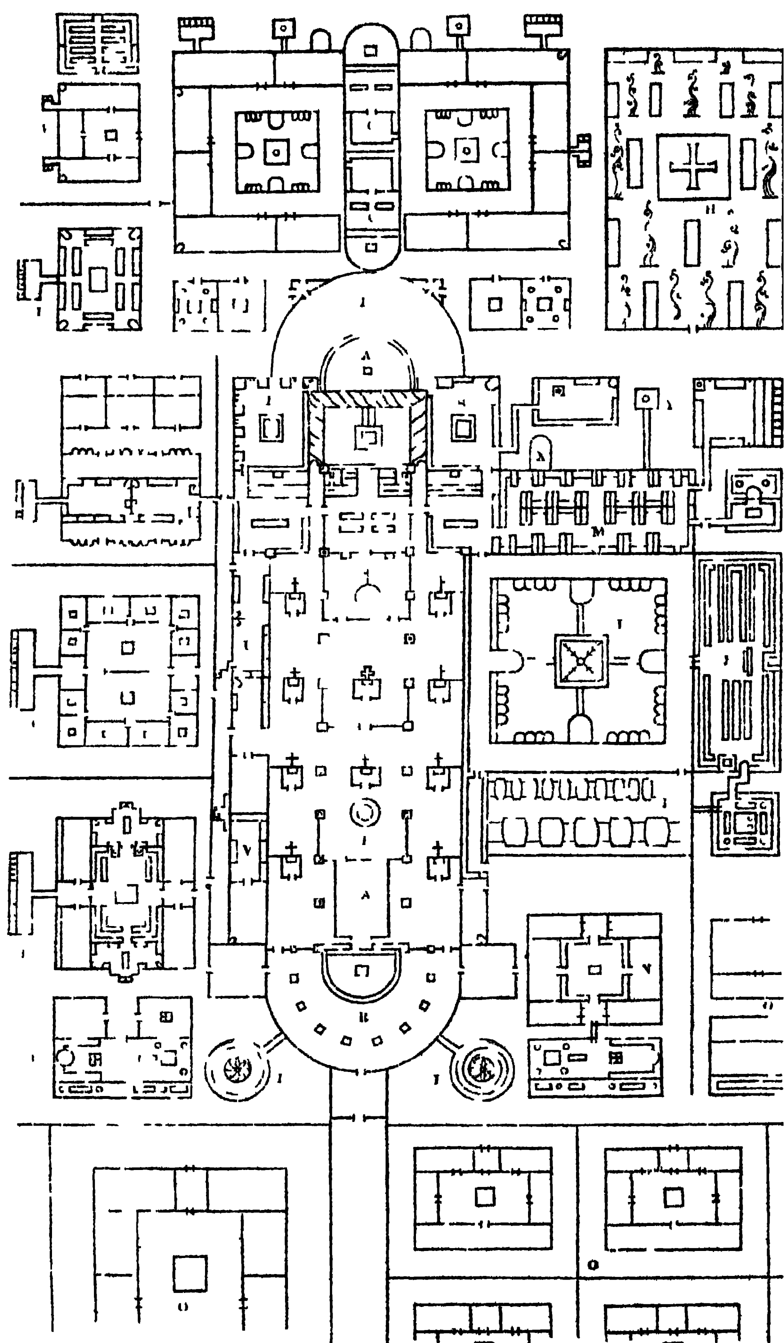
On either side of this church was a cloister, surrounded by apartments that on the north was the infirmary, next to the doctor's residence and to it the western portion of the chapel was attached The other was the school and residence of the novices Beyond these was the orchard (H) which was also the cemetery of the monks, and still further to the southward were situated the kitchen garden the poultry yard the granaries, mills bakehouse and other offices These last are not shown in the woodcut for want of space

On the south side of the church was situated the great cloister (I), and further to the south of this was the refectory (J) with a detached kitchen (K), which also opened into the great wine cellar (L), and opposite to this was the dormitory (M) with its various dependent buildings

To the westward was another hospitium (N) apparently for an inferior class of guests and to the southward and westward (O O) were placed the stables for horses, cattle sheep and all the animals required for so large an establishment the whole arranged with as much skill and care as can be found in the best modern farms

The principal point of interest is the church, which was designed to be 200 ft long from east to west and 80 ft in width, divided into three aisles by two rows of columns the centre aisle being 40, the outer each 20 ft in width It has two apses the principal one towards the east has a vaulted crypt, in which is a confessio meant to contain the relics of the patron saint, St Gall In front of this is a choir, arranged very much on the model of that of S. Clemente at Rome before described[1] The western apse on the same level as the floor of the

[1] See p 361



424. Reduction of an original plan of a Monastery at St Gall

church, was to be dedicated to St. Paul, and the eastern one to St. Peter. Between the two choirs is the font (F) and the altar of St. John the Baptist, and on each side are a range of altars dedicated to various saints. Behind both apses are open spaces or paradises (R R) (parvis), that to the west is surrounded by an open semicircular porch, by which the public were to gain access to the church: and on either side of this, but detached, are two circular towers, each with an altar on its summit, one dedicated to the archangel Michael, the other to Gabriel: these were to be reached by circular stairs or inclined planes. No mention is made of bells, and the text would seem to intimate rather that the towers were designed for watch-towers or observatories. The similarity of their position and form to that of the Irish round towers is most remarkable; but whether this was in compliment to the Irish saint to whom the monastery owed its origin, or whether we must look to Ravenna for the type, are questions not easily determined at the present date, for we know far too little as yet of the archæology of the age to speak with certainty on any such questions. It is by no means improbable that the meaning and origin of those and of the Irish towers were the same; but whether it was a form exclusively belonging to a Celtic or Irish race or common to all churches of that age, is what we cannot now decide from the imperfect data at our command.

On either side of the east end of the church is an apartment, where the transept is usually found; that on the south is the vestry (S): on the north is the library (T), and attached to the church on the same side is the schoolmaster's house (U), and beyond that the porter's (V).

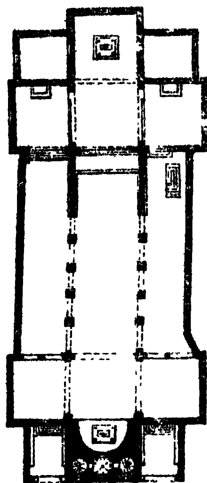
All the living-apartments have stoves in the angles, but the dormitory has a most scientific arrangement for heating: the furnace is at (X), and the smoke is conveyed away by a detached shaft at (Y), between which there must have been some arrangement of flues beneath the floor for heating the sleeping-apartment of the monks.

Were it not that the evidence is so incontrovertible, we should feel little inclined to fancy that the monasteries of this dark age showed such refinement and such completeness as is here evidenced; for at no period of their history can anything more perfect be found. In the church especially, the two apses, the number of altars, the crypt and its accompaniments, the sacristy, the library, &c., many of which things have generally been considered as the invention of subsequent ages, are marked out distinctly and clearly, as well-understood and usual arrangements of ecclesiastical edifices. This fact refutes at once all the arguments regarding the dates of churches which have been founded on the supposed era of the introduction of these accessories.

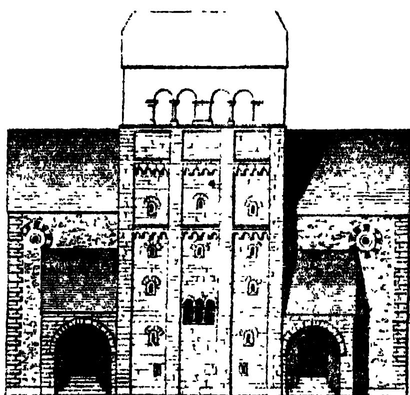
By another fortunate coincidence there is a church still standing on the island of Reichenau, in the lake of Constance, within thirty miles of St. Gall, which certainly belongs to this date, and is unaltered in nearly all its principal features. It was finished, or at least dedicated,

in the year 816, and therefore this event took place just before the rebuilding of St. Gall commenced.[1]

As will be seen from the plan (woodcut No. 425) the dimensions of the two churches are nearly the same; on the St. Gall plan they are written 200 ft. by 80. This church is 230 by 83 English feet, but the eastern[2] apse has been rebuilt on a more extended scale, and if we restore its original circular form, we bring its dimensions so nearly to those of the St. Gall plan, that, if its author used what we now know as French feet, the dimensions of the two may be considered as identical. The pier-arches of the nave are plain, and the whole arrangement is not unlike that of the nave of Motier en Der (woodcut No. 349). One of the most remarkable peculiarities of the Reichenau church is the door behind the altar in the western apse, and the great window looking into it, with double stairs which lead up to it, as though the Bishop's throne was placed there above the heads of all. The two principal entrances were, as shown in woodcut No. 426, on each side of the western apse, and the whole of the elevation—in so far as it is extended—retains the original design of the 9th century. Although retaining the wooden roof, and never apparently intended to be vaulted, this church is essentially Gothic in all its details. There is not a classical feature about it, and we are rather startled to find the Barbarian style so complete at so early an age, and so far removed from anything that could with propriety be called Romanesque.[3]



425. Plan of Church at Reichenau. Scale 100 ft. to 1 in.



426. Elevation of West-end of Church at Reichenau. Scale 50 feet to 1 inch.

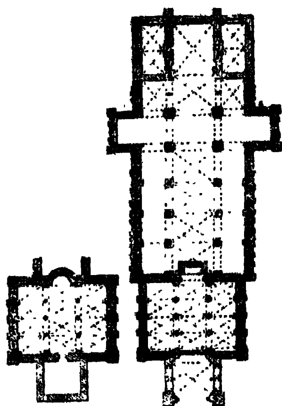
There are other churches in this neighbourhood scarcely less ancient in date than this one at Reichenau, and almost as interesting

[1] All the particulars regarding this church are taken from Hubsch, 'Alt-christliche Bauwerke,' pp. 109, xlix.

[2] That shown in the woodcut is a suggestion of Dr. Hubsch.

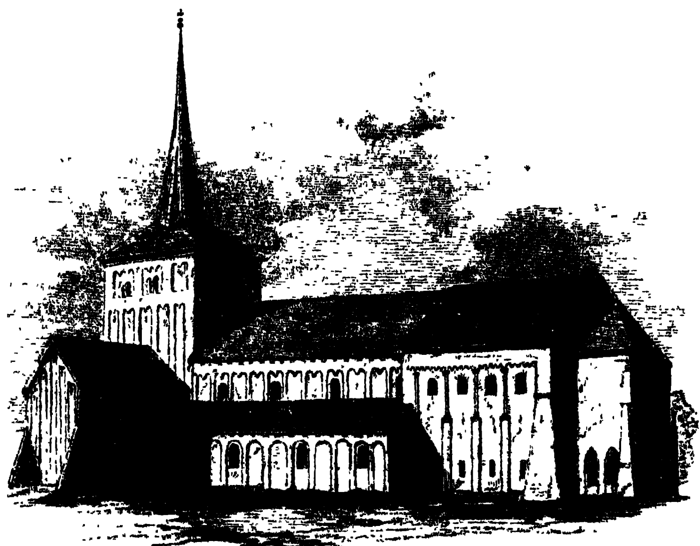
[3] If there are any remains of the monastic buildings at Reichenau it is extremely desirable that they should be examined, in order to see how far they accord with the St. Gall plan. What if it should turn out to be a perfected plan of Reichenau sent after its completion by the abbot Heiton to his friend Gospertus?

in their arrangement. Among these may be mentioned that of Romain-Motier, the body of which certainly remains as it was when consecrated in the year 753. The narthex, which is in two storeys, may be a century or two later, and the porch and east end are of the pointed style of the 12th or 13th centuries. The vaulting of the nave also can hardly be coeval with the original building.


427. Plan of the Church of Romain-Motier. From Blavignac.[1] Scale 100 ft. to 1 in.

From other examples in the neighbourhood, we may safely infer that it originally terminated eastward in one or three apses. Supposing these to be restored, we have a church of about 150 ft. in length by 55 in width across the nave, with transepts, a tower at the intersection, and nearly all the arrangements found at a much later age, and with scarcely any more reminiscence of the Romanesque style than is observable at Reichenau.

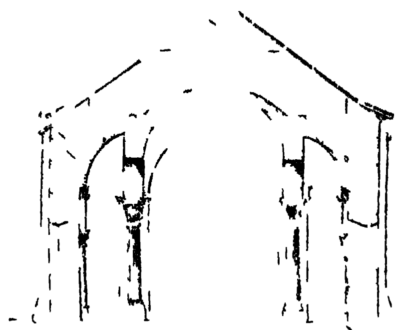
The external mode of decoration is very much that of the two churches of San Apollinare at Ravenna, but is carried one step further, inasmuch as in the upper storey of the nave each compartment is divided into two arches, with no central support: in the tower there


428. View of the Church of Romain-Motier. From Blavignac.

[1] 'Histoire de l'Architecture Sacrée du 4e au 10me Siècle dans les Evêchés de Genève, Lausanne, et Sion, 1853.'

are three such little arches in each bay, and in the narthex five. This design afterwards became in Germany and Italy the favourite string-course moulding.

The church of Granson on the borders of the lake of Neufchatel, though much smaller, is scarcely less interesting. It belongs to the Carlovingian era, and like many churches of that age, has borrowed its pillars and many of its ornaments from earlier monuments. Its most remarkable peculiarity is the vault of the nave, which shows how timidly at that early period the architects undertook to vault even the narrowest spans, the whole nave with its side aisles being only 30 ft. wide. It is the earliest specimen we possess of a mode of vaulting which subsequently became very common in the south of France, and which, as has been pointed out above, led to most of the forms of vaulting afterwards introduced.



[illegible] Section of Church at Granson. From Blavignac.

The church of Notre Dame de Neufchatel, part of which is as old as from 927 to 964, presents also forms of beauty and interest. The same may be said of the tower of the cathedral of Sion, which is of the same age, and of parts also of the cathedral of Geneva.

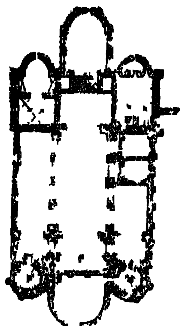
The church at Payerne is very similar in size and in all its arrangements to that of Romain Motier, but being two centuries more modern, the transition is complete, and it shows all the peculiarities of a round-arched Gothic style as completely as San Michele at Pavia, or any other church of the same age.

If there are any examples of Basilican churches in Germany as old as these Swiss examples, they have not yet been described, nor their age satisfactorily ascertained. The oldest known example, so far as I am aware, is the old Dom at Ratisbon,[1] originally apparently about 40 ft. by 20 over all. It was surrounded internally by eleven niches, and vaulted. It also possessed the peculiarly German arrangement of having no entrance at the west end, but with a deep gallery occupying about one fourth of the church. The lateral entrance is unfortunately gone, so that there is very little ornamental architecture about the place by which its age could be determined; and as no record remains of its foundation, we can only conjecture that it may belong to some time slightly subsequent to the Carlovingian era.[2]

[1] Kallenbach, 'Deutsch Baukunst,' pl. 1.

[2] At Aquileja, at the upper end of the Adriatic Gulf, Poppo the archbishop, between the years 1019–1042, erected a building almost identical with this in every respect between the old basilica and

Boisserée places in this age the original cathedrals of Fulda and Cologne, both which he assumes to have been double-apse basilicas, but apparently without any sufficient data. There is no doubt that the cathedral at the latter place, burnt in 1248, was a double-apse church; but if it was anything like his restoration it could not have been erected earlier than the 11th or 12th centuries, and must have replaced an older building, which, for anything we know, may have been circular, as probably as rectangular, and such would likewise appear to have been the case at Fulda, though there is as little to reason upon there as at Cologne.



430. Plan of the Church at Gernrode. From Puttrich.[1]

Leaving these somewhat apocryphal examples, we must come down to the end of the 10th or beginning of the 11th century for examples of the class we are now speaking of. Of these, one of the most perfect and interesting is the church at Gernrode, in the Hartz, founded A.D. 960, when probably the eastern part (not the extended choir) was commenced, and the whole building may be assumed to have been erected within a century after that date. From the plan (woodcut No. 430), it will be seen how singularly like it is to the St. Gall example, except that it appears to have been originally about 50 ft. or one-fourth less in length. The western circular towers, instead of being detached, are here joined to the building. Piers too are introduced internally, alternating with pillars, and altogether the church shows just such an advance on the St. Gall plan as we might expect a century or so to produce. It exemplifies most satisfactorily the original form of these churches.



431. View of West end of Church at Gernrode. From Puttrich.

It possesses what is rare in this country—a bold triforium gallery, and externally that strange frontispiece forming the connecting gallery

the baptistery, so as to make a double-apse church out of the old Romanesque arrangement. The similarity of the two buildings may probably bring down the date of that at Ratisbon to the 10th century.

[1] 'Baukunst des Mittelalters in Sachsen.'

of the two towers, which is so distinguishing a characteristic of German churches. A still bolder example of this gallery remains in the façade of the once famous abbey of Corvey, on the eastern frontier of Westphalia (woodcut No. 432), where we find the feature developed to its fullest extent, so that it must originally have entirely hidden the church placed behind it, as it did afterwards at Strasbourg and in many other examples.

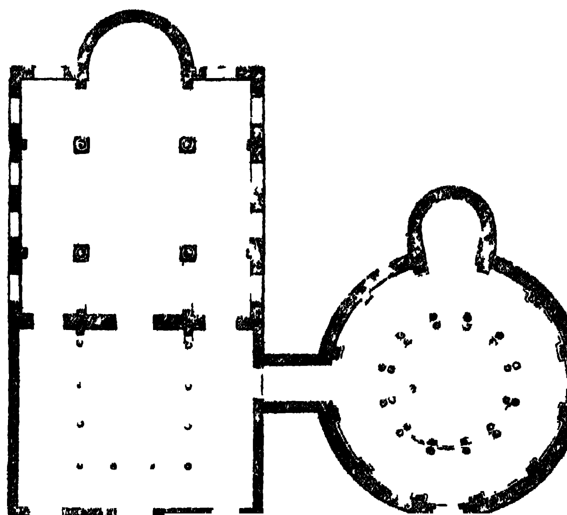


432 View of West-end of Abbey of Corvey.

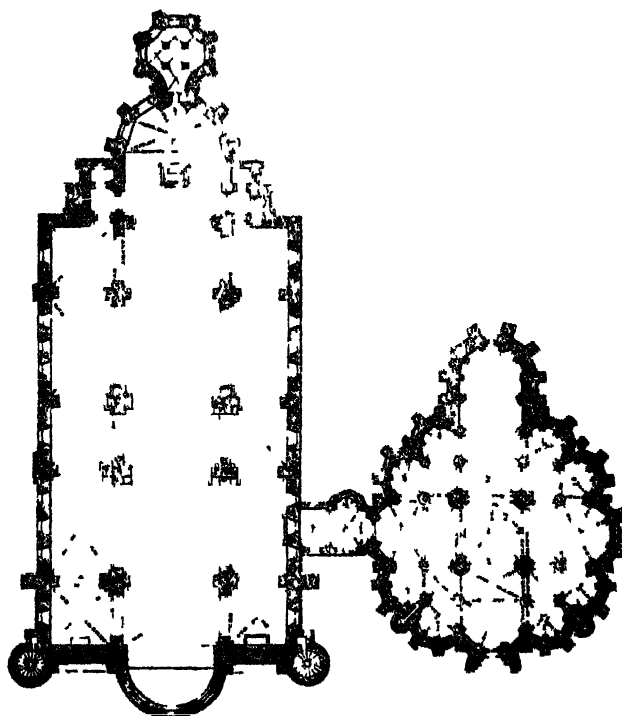
At Gernrode, as at Reichenau, the roof was originally intended to have been of wood, the crypts under the two apses being alone vaulted. Indeed at that age the German architects hardly felt themselves skilled enough to undertake a stone roof of any great extent. The old Dom at Ratisbon is only 13 ft. in width, and that could they accomplish, but not apparently one like Gernrode, where the span was twice that in extent.

If the church at Gernrode is a satisfactory specimen of a complete German design carried out in its integrity, the cathedral at Trèves is both more interesting as well as instructive from a very different cause. It is one of those aggregated buildings of all ages and styles which let us into the secrets of the art, and contain a whole history within themselves; and as the dates of the successive building eras can be ascertained with very tolerable accuracy, it may be as well to describe it next in the series, to explain how and when the various changes took place.

As is well known, the original cathedral at Trèves was built by the pious Helena, mother of Constantine, and seems, like the contemporary church at Jerusalem, to have consisted of two distinct edifices, one rectangular, the other circular. The original circular building was pulled down in the 13th century, to make way for the present church of St. Mary, erected on its site, and most probably of the same dimensions. Of the other, or square building, enough still remains



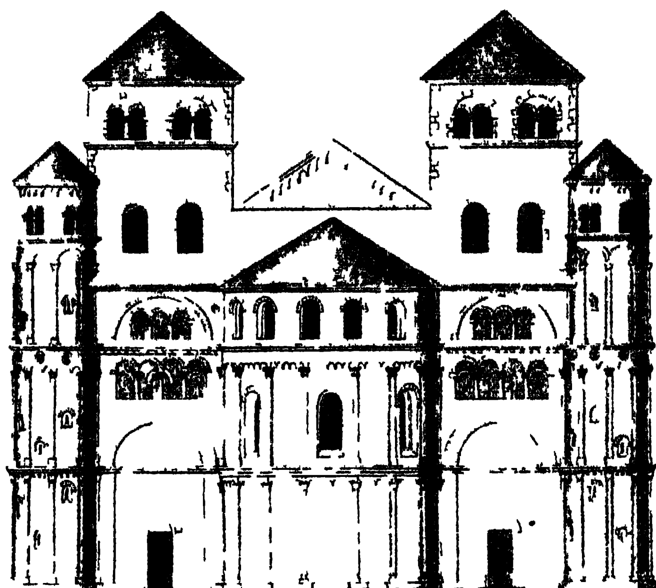
433. Plan of Original Church at Trèves. Scale 100 ft. to 1 in.



434. Plan of Mediæval Church at Trèves. From Schmidt, 'Baudenkmale von Triers.' Scale 100 ft. to 1 in.

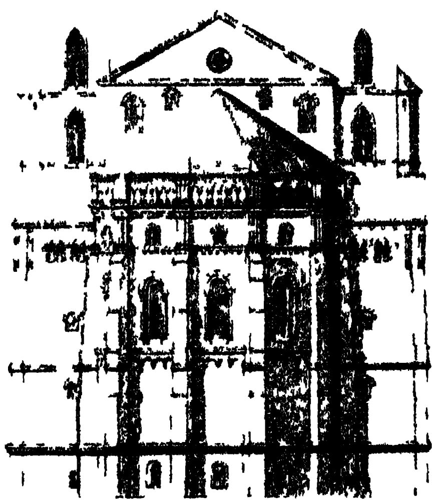
[1] It is by no means clear that there were not three or five pillars originally separating the nave from the aisles instead of the two now built into the piers of the Gothic church.

encased in the walls of the present basilica to enable us to determine its size and plan with very tolerable accuracy. The plan of it in the woodcut



[illegible] Western Apse of Church at Treves. From Schmidt. Scale 50 ft. to 1 in.

(No. [illegible]) is taken from Schmidt's most valuable work on the Antiquities of Treves. The atrium has been added by myself, because it was an almost universal feature in churches of the date in which this was erected, and because there is every reason to believe that the present church occupies as nearly as possible the exact site of the older one, and is of the same dimensions. The circular church is restored from the Roman examples of the same age (woodcuts 218 and 262 to 27[illegible]). From their relative positions it will be seen how indispensable the atrium must have been.



436. Eastern Apse of Church at Treves. From Schmidt. Scale 50 ft. to 1 in.

This Romanesque church seems to have remained pretty much in its original state till the beginning of the 11th century, when the Archbishop Poppo found it so ruinous from age, that

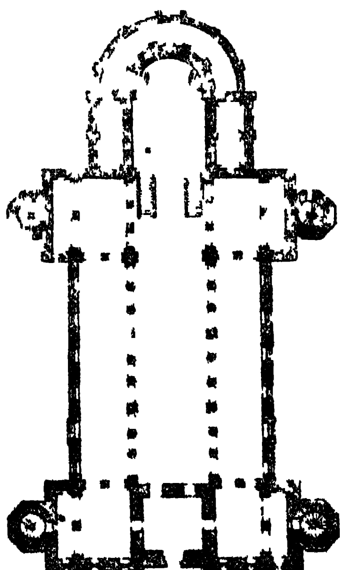
it required to be almost entirely rebuilt. He first encased the pillars of the Romans in masonry, making them into piers. He then took in and roofed over the atrium and added an apse at the western end, thus converting it into a German church of the approved model, so that from this time forward the buildings took the form shown in the woodcut No. [illegible]4.

No very important works seem to have been undertaken from the beginning of the 11th till the middle of the 12th century, when Bishop Hillm is said to have undertaken the repair or rebuilding of the eastern apse. He did not proceed beyond the foundation, but the work was taken up and completed by Bishop John, who held the see from 1190 to 1212. These two apses, therefore, one an example of the beginning of the German round-arched style, the other representing the same near its close, show clearly the progress which had been made in the interval.

The first of these apses (woodcut No. [illegible]) is perhaps somewhat ruder than we might reasonably expect, though this may in part be accounted for by its remote provincial situation. The round towers too are subordinate to the square ones in a manner more congenial to French than to German taste. But the principal defect is in the apsidal gallery, which is rude and tasteless as compared with other specimens which we are apparently justified in considering as contemporary. Before the later or eastern apse was erected the gallery had almost run into the



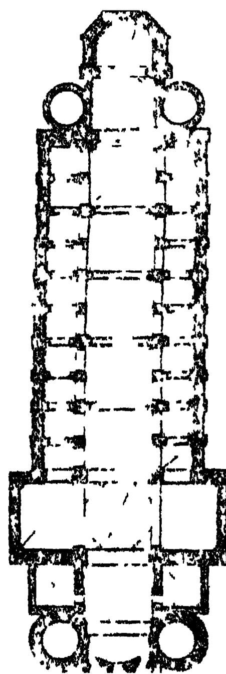
[illegible] Internal View of the Church at Hildesheim. From Müller.



[illegible] Plan of Church at Hildesheim. From Müller, continued by Gladbach. Scale 100 ft. to 1 in.

opposite extreme of minute littleness, and the polygonal form and projecting buttresses of pointed architecture were beginning to supersede the simpler outlines of the parent style, of which those two specimens form as it were the Alpha and the Omega. Between them the examples and varieties are so numerous, that there really is an "*embarras de richesse*" in selecting those most appropriate for illustration.

The church at Hildesheim, erected by Bishop Bernward in the first years of the 11th century, is among the earliest and most interesting of those remaining in sufficient purity to enable us to judge correctly of their original appearance. The plan (woodcut No. 438) is simple,—first a western transept or façade, a nave little longer than it is broad, terminated by another transept similar to the first, flanked like it by two octagonal towers, beyond this a short choir and simple apse, with a low aisle surrounding it, but not communicating directly with the church. The entrances are as usual on each side of the nave, and none at the west end. Though the proportions appear short with reference to the breadth, considerable additional effect is given by the screens that shut off both arms of the eastern transept so as not to allow the perspective effect to be broken. Hence the continuous view of the central aisle, being six times as long as it is broad, gives the appearance of far greater length to the church than could be supposed possible from its lineal dimensions. But the great beauty here is the elegance both in proportion and detail of the pier-arches, which separate the nave from the aisles; the proportion of the pillars is excellent, their capitals rich and beautiful, and every third pillar being replaced by a pier, gives a variety and apparent stability which is extremely pleasing.



439 Plan of Cathedral of Worms. From Geier and Görz. Scale 100 feet to 1 inch.

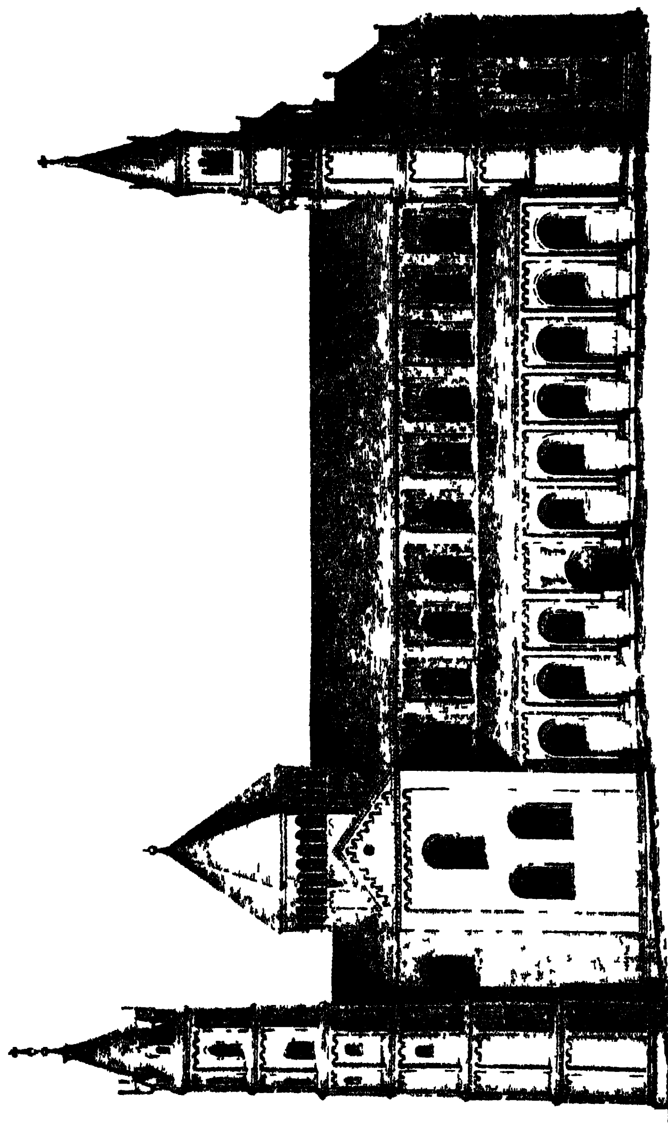
The church at Limburg on the Haardt, erected by the Emperor Conrad, A.D. 1035, is a similar though rather a larger church than that at Hildesheim, and possesses a peculiarity somewhat new in Germany, of a handsome western porch and entrance, with a choir with a square termination, instead of with an apse as was usual.

The three great typical buildings of this epoch are the Rhenish cathedrals of Mayence, Worms, and Spires. The first was commenced in the 10th



440 One Bay of Cathedral at Worms. From Geier and Görz.

century, and still possesses parts belonging to that age. The present edifice at Worms belongs principally to the church dedicated there in 1110. The age of the third and most important of these three cathedrals is still a matter of controversy, and one, I fear, that will not be



Side Elevation of Worms Cathedral. From Rosengarten.

settled without difficulty; for the church has been so frequently damaged by fire and war, and lately by ill-judged restorations, that it is not easy to ascertain what portions of it are old and what new. Still I cannot help feeling convinced that the plan and probably a great part

at least of the present structure, may belong to the original building of Conrad, commenced in 1030, and which was dedicated by his grandson, Henry IV., thirty-one years afterwards.

Except the eastern apse, which is as usual flanked by two round towers, the whole of the exterior of Mayence has been so completely rebuilt, that little can now be said about it. The plan presents nothing remarkable, except that it is evident, from its solidity and arrangement, that it was intended from the commencement to be a vaulted building; while of its details only one doorway remains which can with certainty be said to belong to the original foundation.[1] It is remarkable principally for the classicality of its details, which almost deserve the title of Romanesque; and if its age is correctly ascertained (the end of the 10th century), it would go far to confirm the date usually assigned to the portal at Lorsch, namely, the late Carlovingian period.[2]

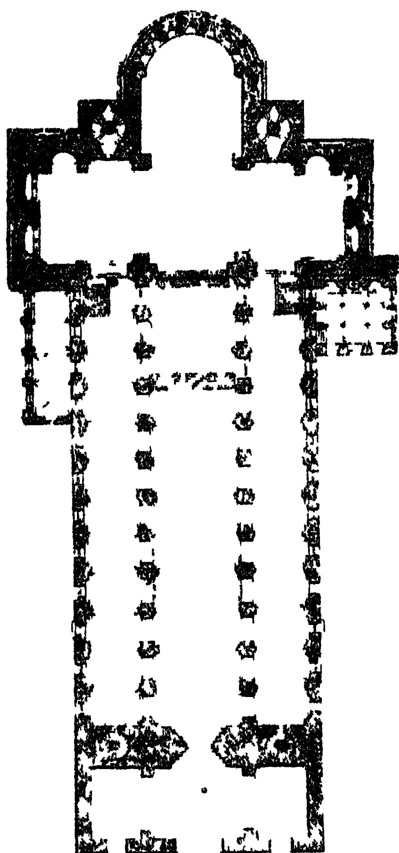
At Worms the only part now remaining, of the edifice dedicated in 1110, is the eastern end. The western apse cannot be older than the year 1200, the intermediate parts having been erected between those dates. The original plan is probably nearly unchanged, and is a fine specimen of its class. The eastern apse is a curious compromise between the two modes of finishing that were in use at that period, being square externally, and circular in the interior. Internally the vaulting throughout is simple and judicious, without any straining after effects like those which puzzled the Norman architects in the same age (see ante p. 465), and the alternate clustered piers and large size of the windows give to the whole a variety and lightness not usual in churches of that date. Nothing can well be simpler or nobler than the design externally. The four circular towers and the two domes break the sky-line pleasingly, and the ornamentation throughout is good and appropriate. Among the best of its details are the pilaster-like buttresses which ornament its flanks, one of these is shown on a larger scale (woodcut No. 440). They display the true feeling of Gothic art, one moulding on each side running round the windows, while the central group forms a pilaster running up to the cornice.

If the design has a defect, it is the want of dignity in the lateral entrances, and from these moreover being placed unsymmetrically on the flanks. The fact of these being lateral arose from the double apse arrangement; but there seems no reason why they should not have been central, and been covered by a porch to give them dignity. Whether right or wrong, this position of the entrances is typical of German church architecture, and is found in all ages.

[1] Moller, 'Deutsch Baukunst,' vol i. plate vi.

[2] I have not been able to ascertain the dimensions of Mayence Cathedral with sufficient correctness to quote them. I possess four plans, all with great pretensions to accuracy, and with scales attached, but they differ so widely that I do not know which to follow.

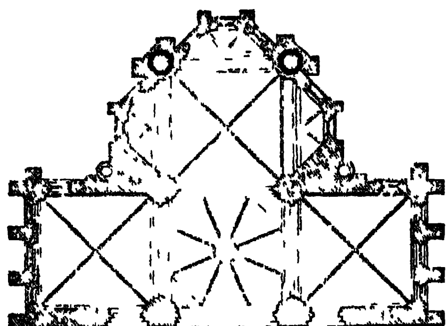
Although the cathedral of Spires cannot boast of the elegance and finish of that of Worms, it is perhaps, taken as a whole, the finest specimen in Europe of a bold and simple building conceived, if the expression may be used, in a truly Doric spirit. Its general dimensions are 435 ft. in length by 125 in width; and taken with its adjuncts, it covers about 57,000 square feet, so that though of sufficient dimensions, it is by no means one of the largest cathedrals of its class. It is built so solidly, that the supporting masses occupy nearly a fifth of the area, and like the other great building of Conrad's, the church of Limburg, this possesses, what is so rare in Germany, a narthex or porch, and its principal entrance faces the altar. Its great merit is the daring boldness and simplicity of its nave, which is 45 ft. wide between the piers, and 105 ft. high to the centre of the vault, dimensions never attained in England, though they are equalled or surpassed in some of the French cathedrals. There is a simple grandeur about the parts of this building which gives a value to the dimensions unknown in later times, and it may be questioned if there is any other mediæval church which impresses the spectator more by its appearance of size than this.



Plan of the Cathedral at Spires. From Geier and Görz. Scale 100 ft. to 1 in.

Externally, too, the body of the church has no ornament but its small window openings and the gallery that runs round under all its roofs. But the bold square towers (certainly of the 12th century) and the central dome group pleasingly together, and, rising so far above the low roofs of the half depopulated town at its feet, impress the spectator with awe and admiration at the boldness of the design and the grandeur with which it has been carried out. Taken altogether, this noble building proves that the German architects at that time had actually produced a great and original style, and that had they persevered they must have succeeded in perfecting it, but they abandoned their task before it was half completed.

The western apse of the cathedral at Mayence is the most modern part of these three great cathedrals, and perhaps the only example in Germany where a triapsal arrangement has been attempted with polygonal instead of circular forms. In this instance, as shown in woodcut No. 443, the three apses, each forming three sides of an octagon, are combined together so as to form a singularly spacious and elegant choir, both externally and internally as beautiful as anything of its kind in Germany. Its style is so nearly identical with that of the eastern apse of the cathedral at Trèves (woodcut No. 436), that there can be no doubt but that, like it, it belongs to the beginning of the 13th century. At this time more variety and angularity were coming into use, suggested no doubt by the greater convenience which flat surfaces presented for inserting larger windows than could conveniently be used with the older curved outlines, for now that painted glass had come into general use, large openings had become indispensable for its display. Notwithstanding this advantage, and the great beauty of the other forms often adopted, none of them compensate for the external effect of the circular lines of the older buildings.

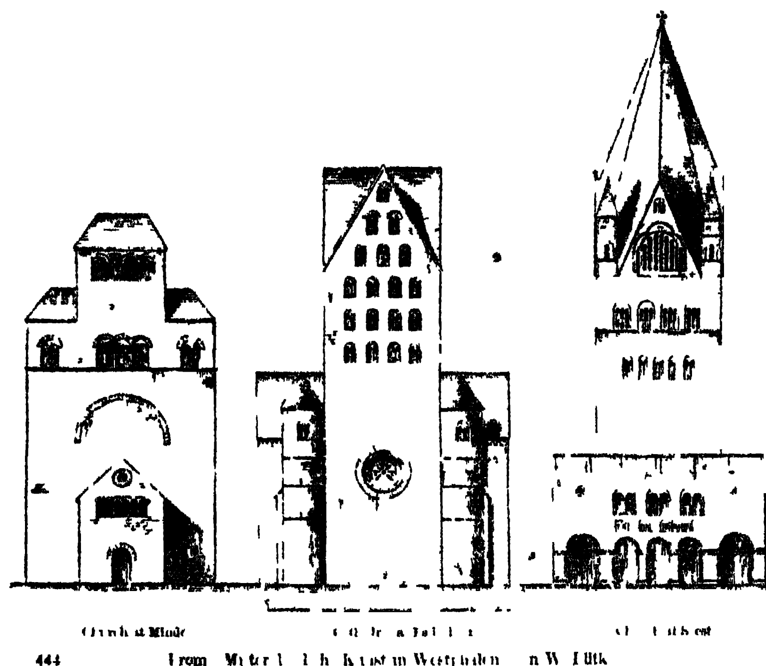


Western Apse of Cathedral at Mayence.

Proceeding northwards, it may be asserted as a general rule, that the churches of Westphalia are singularly devoid of taste and good design. They are extremely numerous, and many of them are sufficiently large for architectural effect; but in the earlier or Round Gothic period they betray a clumsiness which is the reverse of pleasing, and in the age of the Pointed Gothic the style is wire-drawn and attenuated to a degree which is almost worse than the heaviness of that which preceded it. The fact, indeed, is only too apparent, that the northern Germans were not architecturally an artistic people, for neither in Westphalia nor in any of the countries between it and the Baltic do we find any churches displaying that beauty of style or constructive appropriateness which characterises those of Cologne or the cities to the southward of that town.

A good deal of the heaviness of the northern churches internally may no doubt be traced to the circumstance that the earlier examples depended almost wholly on colour for their ornament, and the painting having disappeared, the plain stone or plaster surfaces remain—their flatness being made only the more prominent by the whitewash that now covers them. Notwithstanding these defects, so many of

these churches remain in a state so nearly unaltered at the present day, that much information might be gleaned from a study of their peculiarities. The three examples, for instance, given in woodcut No. 444, illustrate very completely the progress of German spire-growth.



Church at Minden. Cathedral, Paderborn. Church at Soest.

444. From Mittelalterliche Kunst in Westphalen, von W. Lübke.

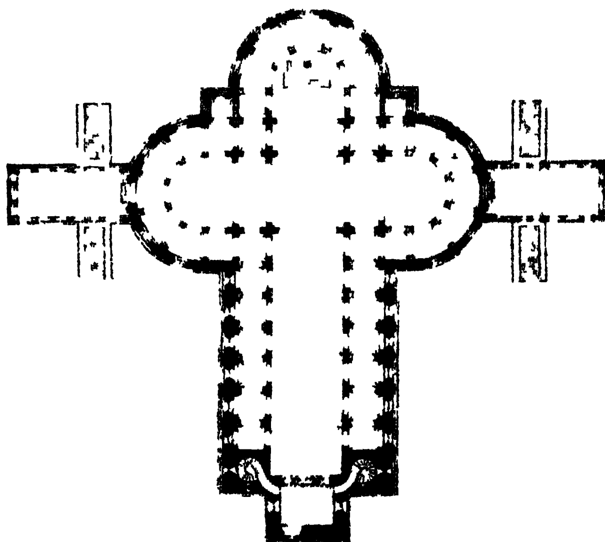
The first, that of Minden, is a very early example of the façade screen so popular throughout Germany in the middle ages. The centre example, from the cathedral at Paderborn, belonging to the middle of the 11th century, shows one of the earliest attempts at a spire-like roof to a tower, four gables being used instead of the two which were generally employed. The third illustration, from Soest, about A.D. 1200, shows the transition complete. The four gables are still there, but do not extend to the angles, nor do they form the principal roof. The corners are cut off, so as to suggest an octagon, and a second roof has grown up to the form of a spire, entirely eclipsing that suggested by the gables. In this instance also the tower has become a specimen of a complete design, and, though the narthex or porch has somewhat the appearance of being stuck on, the upper part of the tower is of considerable elegance.

The same process of spire-growth can be traced to some extent both in England and in France, but on the whole it is by no means clear that the spire, properly so called, is not an importation from the banks of the Rhine. Height in the roof appears always to have been

considered a beauty by German architects, and it seems to have been applied to towers earlier in Germany than in other countries.

Far more important than these, and surpassing them infinitely in beauty, is the group of churches which adorns the city of Cologne, the virtual capital, or at least the principal city, of Germany at the time of their erection. The old cathedral has perished and made way for the celebrated structure that now occupies its place. As just remarked, if it was like the restoration proposed by Boisserée, it resembled Worms, and must have belonged to the 12th century, but it does not seem that there are sufficient data for determining this question.

Of the remaining churches three may be selected as types of the German round arched style as it existed on the eve of the introduction of the French pointed style into Germany.



445. Sta. Maria in Capitolio, Cologne. From Boisserée's Nieder Rhein. Scale 100 ft. to 1 in.

Of these, Sta. Maria in Capitolio (woodcut No. 445), is apparently the oldest, but of the church erected in the 10th century only the nave remains, and that considerably altered. The three noble apses that adorn the east end belong to the 12th, or perhaps even to the 13th century. In plan these apses are more spacious than those of the Apostles' Church or of that of St. Martin (woodcuts 446 and 447), this church alone having a broad aisle running round each, a feature which gives great breadth and variety to the perspective, but the apse of the Church of the Apostles (erected A.D. 1035) is far more beautiful externally. This building is perhaps, taken altogether, the most pleasing example of its class, externally at least. The whole design of the east end is

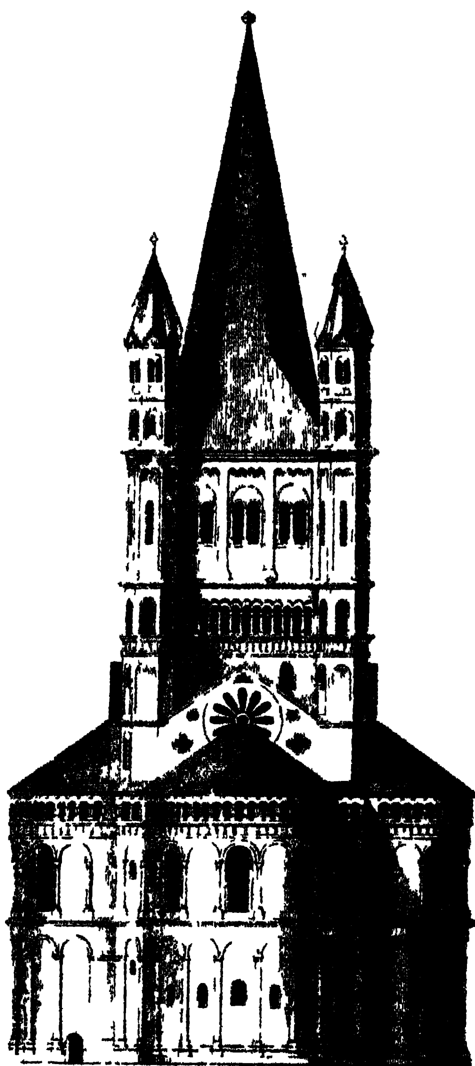
quite complete, as we now see it, and is perfectly well balanced in all its parts. St Martin's on the other hand (woodcut No. 447) has more of the aspiring tendencies of the pointed style, and, though very elegant, its apsidal gallery is too small, and the whole design somewhat wire-drawn, while there is a solidity and repose about the design of the Apostles' Church, and a perfect harmony among the parts which we miss in the more modern example. These three churches, taken together, suffice probably



440. Apse of the Apostles' Church at Cologne. From Boisserée.

to illustrate sufficiently the nature and capabilities of the style which we are describing. The triapsal arrangement possesses in a remarkable degree the architectural propriety of terminating nobly the interior to which it is applied. As the worshipper advances up the nave, the three apses open gradually upon him, and form a noble and appropriate climax without the effect being destroyed by something less magnificent beyond. But their most pleasing effect is external, where the three simple circular lines combine gracefully together, and form an

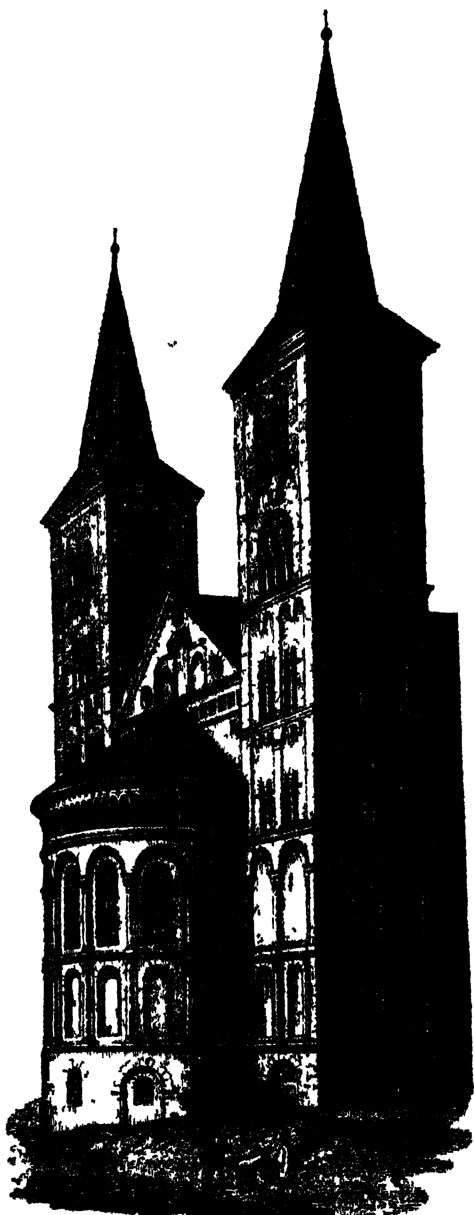
elegant basement for any central dome or tower. Compared with the confused buttresses and pinnacles of the apses of the French pointed churches, it must certainly be admitted that the German designs are far nobler, as possessing more architectural propriety and more of the elements of true and simple beauty. The churches which possess this feature are small, it is true, and therefore it is hardly fair to compare them with such imposing edifices as the great and overpoweringly-magnificent cathedral of the same town; but among buildings on their own scale they are as yet unrivalled. As these churches now stand, their effect is to some extent marred by the circumstance of their naves neither being sufficient in extent nor so ornamental as to support effectually the varied outline and rich decoration of the apse. Generally these are of a different age and of a less ornate style, so that the complete effect of a well-balanced composition is wanting, but this does not suffice to destroy the great beauties these churches undoubtedly possess.



447. Apse of St. Martin's Church at Cologne. From Boisserée.
Scale 50 ft. to 1 in.

In so far as beauty of design in this style is concerned, perhaps the church at Bonn ought to be quoted next after those of Cologne. It is only the east end, however, that belongs properly to their style of architecture, the nave and central tower were not completed till the 13th century; but the eastern apse and its two flanking towers are in themselves as noble as the triapsal arrangement of the Apostles' Church, but would require even a bolder nave and loftier west end to balance them

than the more modest arrangement of that building. As it is, the effect of the church as a whole is destroyed by the comparative meanness of these parts.

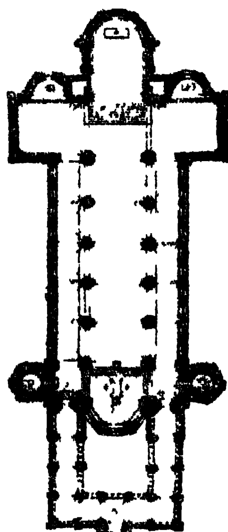


442. East End of Church at Bonn. From Rosengarten.

As in the case with almost all mediæval buildings, the greater number of churches of this age have been erected at different periods of time, and the designs altered as the work proceeded, to suit the taste of the day. This circumstance makes them particularly interesting to the architectural historian, though the artist and architect must always regret the incompleteness and want of harmony which this produces. An exception to this rule is found in the beautiful abbey church at Laach, erected between the years 1093 and 1156, therefore rather early in the style. Its dimensions are small, only 215 feet internally by 62, but this is compensated for by its completeness. It is one of the few churches that still possess the western paradisus or parvis, as shown in the remarkable ancient plan found at St. Gall.[1] The western apse is applied to its proper use of a tomb-house, and on each side of it, as at Reichenau, are the principal entrances. Externally this church has two central and four lateral towers, two of the latter being square, and two

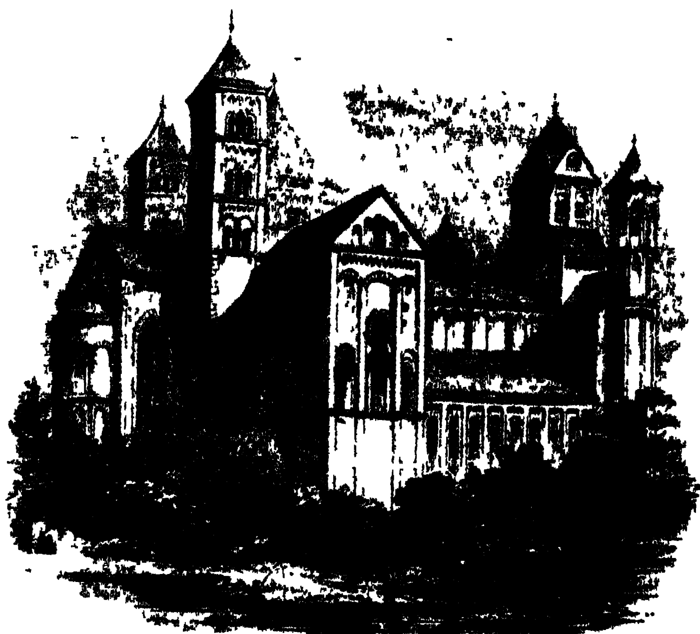
[1] See p. 503 et seqq.

circular. It is impossible to fancy anything more picturesquely pleasing than this group of towers of various heights and shapes, or a church producing a more striking effect with such diminutive dimensions as this one possesses, the highest point being only 140 ft. from the ground-line. No church, however, of the pointed Gothic style has its sky-line so pleasingly broken, while the cornices and eaves still retain all the unbroken simplicity of classic examples, showing how easily the two forms might have been combined by following the path here indicated.



149. Plan of Church at Laach. From Geier and Görz. Scale 100 ft. to 1 in.

These are perhaps the finest and most typical buildings in this style, and sufficient to characterise the form of architecture in vogue in Germany in the great Hohenstaufen period, and in the century immediately preceding the accession to power of that house, but they are not nearly all the really important buildings which during the epoch of true German greatness were erected in almost every considerable city of the empire. In Cologne itself there is the church of St. Gereon, the nave of which, with its crypt, belongs to the 11th century, the apse to the 12th, and the decagonal domed part to the 13th. This is a most interesting specimen of transi



View of Church at Laach. From Geier and Görz.

tion architecture, and as such will be mentioned hereafter. So is the church of St Cunibert, dedicated in 1248, and hardly more advanced in style than the abbey of St. Denis near Paris, built at least a century earlier. The churches of St. George and of Sion in the same city afford interesting examples of the style, but even more important, however, than these are the noble church at Andernach, the abbey church of Heisterbach,



451 Church at Sinzig. From Boisserée.

and that of St Quirin in Neuss. In the same neighbourhood the little church of Sinzig is a pleasing specimen of the age when the Germans had laid aside the bold simplicity of their earlier forms to adopt the more elegant and sparkling contours of pointed architecture.[1] A little

[1] For particulars of more of these churches, see Boisserée, 'Nieder Rhein.'

farther up the Rhine the church of St. Castor at Coblentz agreeably exemplified the later style (1157-1208), its apse being one of the widest and boldest of its class, though deficient in height.



Rood Screen at Wechselburg. From Puttrich.

The neighbourhood of Trèves has also some excellent specimens of round Gothic, among which may be mentioned the abbey of Echternach, the church of St. Mathias, and the interesting and elegant church of Merzig.[1]

In Saxony there are many beautiful, though not very extensive, examples of the German style. Among these the two ruined abbeys of Paulinzelle and Thal Burgel, neither of them vaulted churches, are remarkable for the simple elegance of their forms and details, showing how graceful the style was becoming before the pointed arch was introduced. The church at Wechselburg is also interesting, though somewhat gloomy, and retains a rood screen of the 12th century (woodcut No. 452), which is a rare and pleasing example of its class. The church at Hecklingen also deserves mention, and the fragment of the abbey at Gollingen is a pleasing instance of the pure Italian class of design sometimes found in Germany at this age. Its crypt, too, affords an example of vaulting of great elegance and lightness, obtained



Crypt at Gollingen. From Puttrich.

[1] Schmidt, 'Baudenkmale Trier,' where all these are figured.

by introducing the horse-shoe arch, or an arch more than half a circle in extent, which takes off the appearance of great pressure upon the capital of the pillar, and gives the vault that height and lightness which were afterwards sought for and obtained by the introduction of the pointed arch. It is still a question whether this was not the more pleasing expedient of the two. There was one objection to the use of this horse-shoe shape, that considerable difficulty arose in using arches of different spans in the same roof, which with pointed arches became perfectly easy.

Another example of more Italian design, however, is found in the church of Rosheim in Alsace, the façade of which (woodcut No. 454) belongs as much to Verona as to this side of the Alps. Its interior is of pleasing design, though bolder and more massive than the exterior would lead us to expect.



454. Façade of the Church at Rosheim. From Chapuy.

The façade of the church of Marmoutier in the same province, and of the cathedral of Guebwiller, are two examples—very similar to one another—of a compromise between the purely German and purely Italian styles of design. The small openings in the former look almost like those of a southern clime, but in its present locality give to the church an appearance of gloom by no means usual. Still it has the merit of vigorous and purpose-like character.

At Bamberg the church of St. Jacob is well worthy of attention, and



453 Church at Marmoutier. From Chapuy.

the Scotch church at Ratisbon is one of the best specimens in Germany of a simple basilica without transepts or towers. Its principal entrance is a bold and elegant piece of design, covered with grotesque figures whose meaning it is difficult to understand. Had it been placed at the end of the church, it might have formed the basis of a magnificent façade, but stuck unsymmetrically on one side—as is so usual in Germany—it loses half its effect, and can only be considered as a detached piece of ornamentation, which is here—as it generally is—fatal to its effect as an architectural composition.

Double Churches.

Before leaving ecclesiastical buildings, it is necessary to allude to a class of double churches and double chapels. Of these the typical example is the church of Schwartz Rheindorf,[1] dedicated in the year 1151. It is in itself a pleasing specimen of the style, irrespective of

[1] 'Die Doppelkirche zu S. R. D.,' by Andreas Simons. Bonn, 1846.

its peculiarity. It is, however, simply a church in two storeys At first sight the lower one looks like an extensive crypt, but this does not seem to have been its purpose so much as to afford an increase of accommodation to enable two congregations to hear the same service at the same time, there being always in the centre of the floor of the upper church




456 Section of Church of Schwartz Rheindorf
Scale 50 ft to 1 in

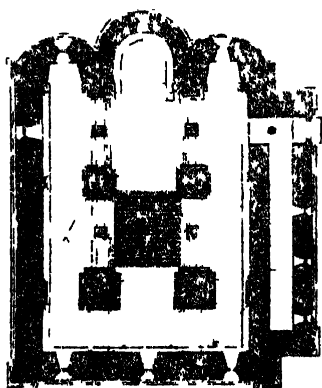
an opening sufficient for those above to hear the service, and for some of them at least to see the altar below In castle chapels where this

457 View of the Church of Schwartz Rheindorf. From Simon

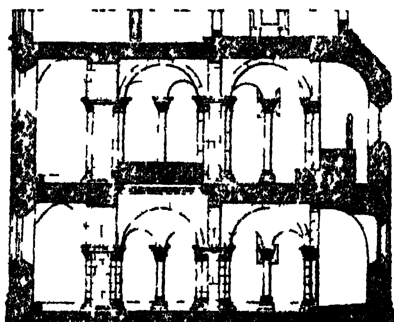
method is most common, the upper storey seems to have been occupied by the noblesse, the lower by their retainers, which makes the arrangement intelligible enough.

The church at Schwartz Rheindorf is not large, being only 112 ft. long, over all, by 53 ft. wide across the transepts, and the two western bays appear to have been added afterwards. The walls of the lower storey are built of sufficient thickness to admit of a gallery being carried all round the church externally on the level of the floor of the upper church. This gives it a very peculiar but pleasing character; and as the details are good and appropriately designed, it is altogether as characteristic and as original a design as can well be found of the purely German style of its age.

In the castle at Nuremberg there is an old double chapel of this sort, but it does not appear in this instance that there was an opening between the two: if it existed, it has been stopped up. There is another at Eger, and two are described by Puttrich in his beautiful work on Saxony. one of these, the chapel at Landsberg near Halle, is given in plan and section in woodcuts Nos. 458 and 459, and though small,

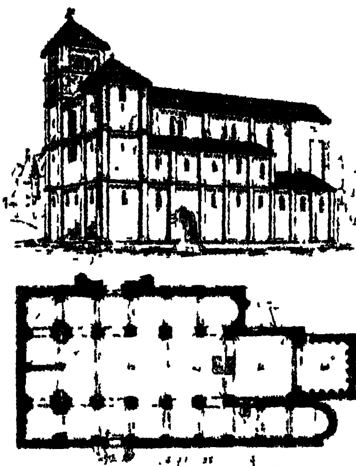


458 Plan of Chapel at Landsberg. From Puttrich.


459 Section of Chapel at Landsberg. From Puttrich.

being only 40 ft. by 28 internally, presents some beautiful combinations, and the details are finished with a degree of elegance not generally found in larger edifices: the other, that at Friburg on the Unstrutt, measuring 21 ft. by 28, is altogether the best of the class, from the beauty of its capitals and the finish of every part of it. It belongs in time to the very end of the 12th, or rather perhaps to the 13th century, and from the form of its vaults and the foliation of their principal ribs, one is almost inclined to ascribe to it a later period; for it would be by no means wonderful if in a gem like this the lords of the castle should revert to their old German style instead of adopting foreign innovations. The windows are of pointed Gothic, and do not appear like insertions.

Returning again to Switzerland, with which this chapter began, we find several interesting buildings in that country during the whole round-arched Gothic period, many containing the boldness of the Northern examples with a certain amount of Southern elegance of feeling in the details, which together make a very charming combination. Among these none are more remarkable than the cathedral at Zurich (woodcut No. 460). Its date is not correctly known: for though it seems that a church was founded here in the time of Otho the Great, it is very uncertain whether any part of that building is incorporated in the present edifice, the bulk of which is evidently of the 11th or 12th centuries. The arrangement and details of the nave are so absolutely identical with those of San Michele at Pavia, that both must certainly belong to the same epoch. But in this church we meet with several German peculiarities to which attention cannot be too frequently drawn by those who would characterise correctly the peculiarities of German Gothic.



View and Plan of the Cathedral at Zurich From Vogelin.

The first of these is the absence of any entrance in the west front. Where there is an apse at either end, as is frequently the case in the German churches, the cause is perfectly intelligible; but the Cathedral of Zurich has not, and never had, an apse at the west end, nor is it easy to suggest any motive for so unusual an arrangement, unless it is that the prevalence of the plan of two apses had rendered it more usual to enter churches in Germany at the side, and it was consequently adopted even where the true motive was wanting. In an architectural point of view it certainly is a mistake, and destroys half the effect of the church both internally and externally; but it was very common in Germany before they learnt from the French to make a more artistic arrangement of the several parts.

Another peculiarity is the distinct preparation for two towers at the west end, as proved by the two great piers, evidently intended to support their inner angles. Frequently in Germany the whole west end was carried up to a considerable height above the roof of the nave, and either two or three small spires were placed on this frontal screen. This, however, does not appear to have been the case here; for though the two towers that now adorn it are modern, the intention seems originally to have been the same. Had they been intended to

flank the portal, and give dignity to the principal entrance, their motive would have been clear; but where no portal was intended, it is curious that the Germans should so universally have used them, while the Italians, whose portals were almost as universally on their west fronts, should hardly ever have employed the arrangement.

The east end, as will be observed, is square, an arrangement not unusual in Switzerland, though nearly unknown in the Gothic churches of Italy and Germany. The lateral chapels have apses, especially the southern one, which I believe to be either the oldest part of the cathedral, or to have been built on the foundations of that of Otho the Great.

The most beautiful and interesting parts of this church are the northern doorway and the cloisters both of nearly the same age, their



461 Doorway at Basle From Chapuy

date certainly extending some way at least into the 12th century. As specimens of the sculpture of their age, they are almost unrivalled, and strike even the traveller coming from Italy as superior to any of the contemporary sculpture of that country.

One of the doorways of the Cathedral of Basle (woodcut No. 461) is in the same style, and perhaps even more elegant than that of Zurich. Both in the elegance of its form and in the appropriateness of its details it is quite equal to anything to be found in Italy of the 11th or 12th centuries. Its one defect, as compared with Northern examples, is the want of richness in the archivolts that surmount the doorway. But, on the other hand, nothing can exceed the elegance of the shafts on either side, the niches of the buttresses, or of the cornice which surrounds the whole composition.

These details of the Swiss buildings are well worthy of the most attentive consideration, inasmuch as they equal those of Provence or the North of Italy in elegance of feeling and design, while they are free from the classical trammels which so frequently mar their appropriateness in those provinces. In Switzerland they are as original as in Northern Germany, and as picturesque while they are free from the grotesqueness that so frequently mars the beauty of even the best specimens in that country.

CHAPTER III.

CIRCULAR CHURCHES.

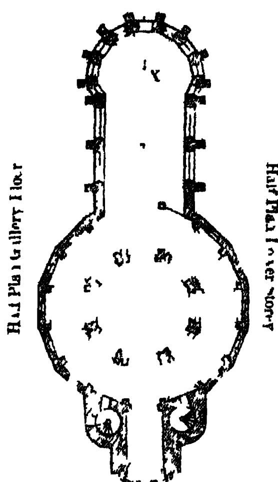
CONTENTS.

Aix-la-Chapelle — Nimeguen — Fulda — Bonn — Cobern.

If we are fortunate in having the St. Gall plan and Reichenau cathedral with which to begin our history of the Basilican-formed churches in Germany, we are equally lucky in having in the Dom at Aix-la-Chapelle an authentic example of a circular church of the same age. As Emperor of the Romans, Charlemagne seems to have felt it necessary that he should have a tomb which should rival that of Augustus or Hadrian, while, as he was a Christian, it should follow the form of that of Constantine, or the most approved model of the circular church, which was that which had been elaborated not very long before at Ravenna. Though its design may have been influenced by Italian examples to some extent, the general arrangement of the building and its details exhibit an originality which is very remarkable. The mode in which the internal octagon is converted into a polygon of sixteen sides, the arrangement of the vaults in both storeys, and the whole design are so essentially Gothic, so different from anything Romanesque in form, that it must be far from being the first example of its style. It is, however, the oldest we possess, and the most interesting. It was built by the greatest man of his age, and more emperors have been crowned and more important events have happened beneath its venerable vaults than have been witnessed within the walls of any existing church in Christendom. Notwithstanding the doubts that have been thrown lately on the fact, I feel convinced that we now possess the church of Charlemagne in all essential respects as he left it.[1] The great difficulty in fixing its age appears to arise from the fact of most of its architectural ornaments having been painted or executed in mosaic, instead of being carved, and time and whitewash have so obliterated these, that the remaining skeleton—it is little else—seems ruder and clumsier than might be expected.

[1] The building is as yet practically unedited, notwithstanding its importance in the history of architecture. I have myself examined this edifice, but in too hurried a manner to enable me to supply the deficiency. I speak, therefore, on the subject with diffidence.

As will be seen from the annexed plan, the church is externally a polygon of sixteen sides, and is about 105 ft. in diameter; internally, eight compound piers support a dome 47 ft. 6 in. in diameter. The height is almost exactly equal to the external diameter of the building. Internally this height is divided into four storeys, the two lower, running over the side-aisles, are covered with bold intersecting vaults. The third gallery, like the triforium of more modern churches, is open to the roof, and above that are eight windows giving light to the central dome.



46. Plan of Church at Aix la Chapelle. From Von [illegible]

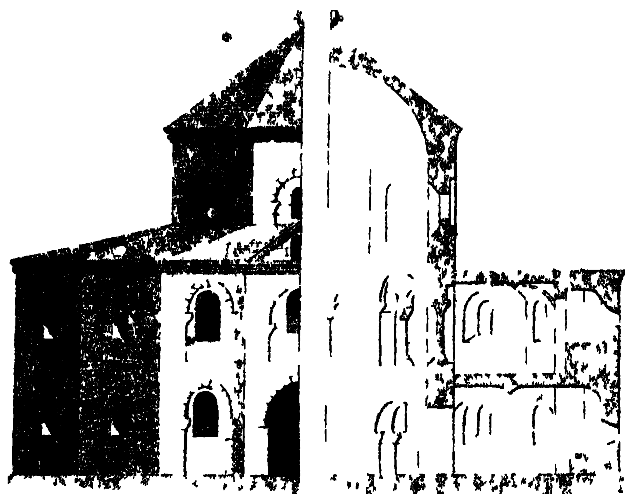
To the west was a bold tower-like building, flanked, as is usual in this style, by two circular towers containing staircases. To the east was a semicircular niche containing the altar, which was removed in 1353, when the present choir was built to replace it.

There is a tradition that Otho III. rebuilt this minster, though it is more probable that he built for himself a tomb-house behind the altar of that of his illustrious predecessor, where his bones were laid, and where his tomb till lately stood at the spot marked X in the centre of the new choir. What the architect seems to have done in the 14th century was to throw the two buildings into one, retaining the outline of Otho's tomb-house, which may still be detected in the unusual form shown in the plan of the new building.

The tradition is that this building is a copy of the church of St. Vitale at Ravenna, and on comparing its plan with that represented in woodcut No. 274, it must be admitted that there is a considerable resemblance. But there is a bold originality in the German edifice and a purpose in its design, that would lead us rather to consider it as one of a long series of similar buildings which there is every reason to believe existed in Germany in that age. At the same time the design of this one was no doubt considerably influenced by the knowledge of the Italian examples of its class which its builders had acquired at Rome and Ravenna. Its being designed by its founder for his tomb is quite sufficient to account for its circular plan—that, as has been frequently remarked, being the form always adopted for this purpose. It may be considered to have been also a baptistery—the coronation of kings in those days being regarded as a re-baptism on the entrance of the king upon a new sphere of life. It was in fact a ceremonial church, as distinct in its uses as in its form from the basilica, which in Italy usually accompanied the circular church; but whether it did so or not in this instance can only be ascertained when

the spot and its annals are far more carefully examined than has hitherto been the case.

The church at Nimeguen is even less known than this one; we have no tradition as to who its builder was, nor whose tomb it was erected to contain. From the half section, half elevation (woodcut No. 463[1]), it will be seen that it is extremely similar to the one just described, both in plan and elevation, but evidently of a somewhat more modern date, having scarcely a trace of the Romanesque style. It wants too the façade which usually adorned churches of that age; but it seems so unaltered from its original arrangement that it is well worthy of more attention than it has hitherto received.



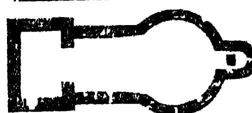
463. Church at Nimeguen. From Schayes. No scale.

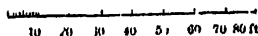
Of the church of Otho the Great at Magdeburg we know nothing but from a model in stone, about 12 ft. in diameter, still existing in the present cathedral and containing sitting statues of Otho and his English Edith, who were buried in the original edifice. The model unfortunately was made in the 13th century, when the original was burnt down, and as the artists in that day were singularly bad copyists we cannot depend much on the resemblance. It appears, however, to have been a polygon of sixteen sides externally, like the two just mentioned; and if it is correct to assume, as was generally the case, that the choir of the present cathedral is built on the foundation of the older church, its dimensions must have been nearly similar, or only slightly inferior to those of either of the two last mentioned churches. The details of the model belong to the age in which it was made, and not to that of the church it was meant to represent.

[1] Taken from Schayes' 'Histoire de l'Architecture en Belgique,' vol. ii. p. 18, taken by him, I believe, from Lassaulx.

At Ottmarsheim in Alsace is another example which, both in design and dimensions, is a direct copy of the church at Aix-la Chapelle. The only difference in plan is that it remains an octagon externally as well as internally, and that the gallery arches, instead of being filled with a screen of classical pillars borrowed from Italy, are ornamented with shafts supporting eight arches designed for the place. There is no tradition which tells us who built this church, nor for what purpose it was erected. It is older than that at Nimeguen, but is certainly a copy of Charlemagne's church, and apparently not very much more modern.



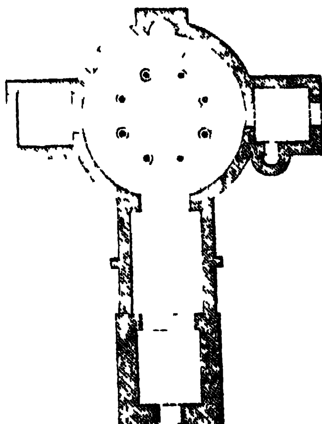




464. Church at Petersberg. From Puttrich.

At the Petersberg, near Halle, is a curious compound example shown in the woodcut No. 464. It is a ruin but interesting as showing another form of circular church differing from those described above, more essentially German in design, and less influenced by classical and Romanesque forms than they were. It never was or could have been vaulted, and it possesses that singular flat tower-like frontispiece so characteristic of the German style, which is found in no other country, and whose origin is still to be traced.

At Fulda there is a circular church of a more complicated plan than this, though it is in fact only an extension of the same design. The circular part or choir is in this instance adorned with eight free-standing pillars of very classical proportions and design, very similar to those of Hildesheim (woodcut No. 437). There is a small transeptal entrance on one side of the circle, and apparently a vestry to correspond on the other. It is altogether one of the most perfect buildings of its class, either in Germany or France, in so far at least as its plan is concerned. Its date is probably the beginning of the 11th century, but it stands on a circular crypt of still more ancient date.[1]

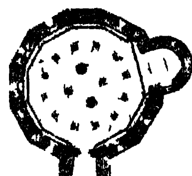


465. Plan of Church at Fulda. From Petit. Scale 50 ft. to 1 in.

At Druggelte, near Soest, there is a small circular church which deserves notice for the singularity of its plan. Externally it is a

[1] See paper by Mr. Petit in the 'Archæological Journal,' vol. xviii. p. 110.

polygon of twelve sides. Internally it has four pillars, in the centre two very large and strong, two more slender, and around them a circle of twelve pillars of very attenuated form. As is usual in German churches, the door and apse are not placed symmetrically as regards each other. Its dimensions are small, being only 33 ft. across internally. The German architects are not quite agreed as to its date; generally it is said that its founder brought the plan from the Holy Land, and built it here in the 12th century, meaning it to be an exact copy of the Holy Sepulchre. If this be the case, it is the plan of the Dome of the Rock that he brought away and repeated, for the arrangement has considerable similarity with the plan of that building, but none whatever with that of the church of the Holy Sepulchre.



166. Plan of Church at Drüggelte. From Kugler. Scale 50 ft. to 1 in.

Though it is anticipating to some extent the order of the dates of the buildings of Germany, it may be as well to complete here the subject of the circular churches of that country; for after the beginning of the 11th century they ceased to be used except in rare and isolated instances. At that date all the barbarian tribes had been converted, and the baptism of infants was a far less important ceremony than the admission of adults into the bosom of the Church, and one not requiring a separate edifice for its celebration and tombs had long since ceased to be objects of ambition among a purely Aryan race. At the same time the immense increase of the ecclesiastical orders, and the liturgical forms then established, rendered the circular form of church inconvenient and inapplicable to the wants of the age. The basilica on the other hand,

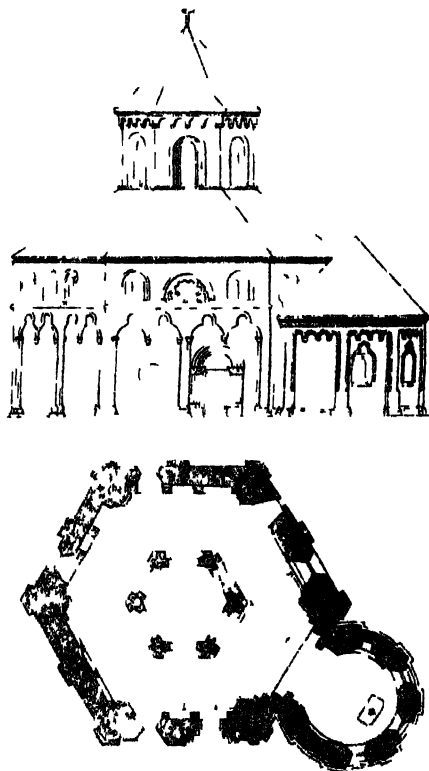


Baptistery at Bonn. From Boisserée's 'Nieder Rhein.'

was equally sacred with the baptistery, and soon came to be considered equally applicable to the entombment of emperors and to other similar purposes.

The circular church called the Baptistery at Bonn (woodcut No. 467), which was removed only a few years ago, was one of the most interesting specimens of this class of monuments in the age to which it belongs. No record of its erection has been preserved, but its style is evidently of the 11th century. Excepting that the straight or rectangular part is here used as a porch, instead of being inserted between the apse and the round church, to form a choir, the building is almost identical with St. Tomaso in Limine, and other Lombard churches of the same age. Both externally and internally it is certainly a pleasing and elegant form of church, though little adapted either for the accommodation of a large congregation or to the ceremonies of the mediæval Church.

There is another small edifice called a Baptistery at Ratisbon, built in the last years of the 12th century, which shows this form passing rapidly away, and changing into the rectangular. It is in reality a square surrounded by three apses, and surmounted by an octagonal dome. As we have just seen, the same arrangement forms the principal as well as the most pleasing characteristic of the Cologne churches, where on a larger scale it shows capabilities which we cannot but regret were never carried to their legitimate termination. The present is a singularly pleasing specimen of the class, though very small, and wanting the nave, the addition of which gives such value to the triapsal form at Cologne, and shows how gracefully its lines inevitably group together. On the spot it is still called the Baptistery; but the correct tradition, I believe, is that it was built for the tomb house of the bishop to whom it owes its erection.



46 Chapel at Cobern on the Moselle. From Wiebeking. No scale.

One more specimen will serve to illustrate nearly all the known forms of this class. It is a little chapel at Cobern on the Moselle (woodcut No. 468), hexagonal in plan, with an apse, placed most unsymmetrically with reference to the entrance—so at least we should consider it: but the Germans seem always to have been of opinion that a side entrance was preferable to one opposite the principal point of interest. The details of this chapel are remarkably elegant, and its external form is a very favourable specimen of the German style just before it was superseded in the beginning of the 13th century by the French pointed style.

There is, besides those, a circular chapel of uncertain date at Altenfurt near Nuremberg, and there are many others at Prague and in various parts of Germany but none remarkable either for their historical or for their artistic importance. This form went out of use before the style we are describing reached its acmé; and it had not therefore a fair chance of receiving that elaboration which was necessary for the development of its capabilities

CHAPTER IV.

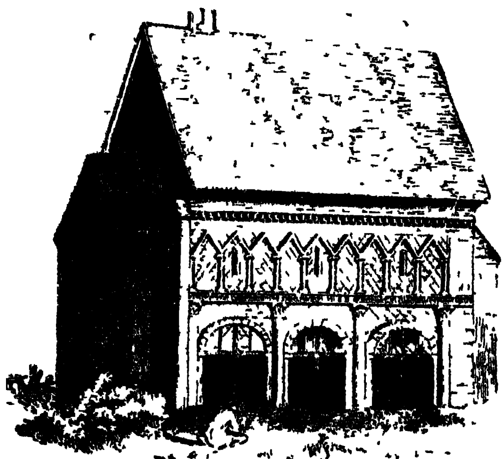
DOMESTIC ARCHITECTURE.

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Lorsch – Palaces on the Wartburg – Gelnhausen – Houses – Windows.

As might be expected, the remains of domestic architecture are few and insignificant as compared with those of the great monumental churches, which in that age were the buildings *par excellence* on which the wealth, the talent, and the energy of the nation were so profusely lavished.

The earliest building which has been brought to light is certainly the portal of the Convent at Lorsch, near Mannheim. It is now used as a store and has been a good deal defaced; but sufficient remains, not only to show its form, but the character of its details. These are so classical as to justify us in calling the building Romanesque; and if it were not that we have buildings — such for instance as St. Paul au Trois Chateaux (woodcut No. 290), which may date in the 10th and 11th century — we might be inclined to assert most confidently that the date of this building must approximate nearly to the time of the departure of the Romans. On the other hand the purely classical details of such buildings as those found in Provence must render us cautious in judging of the age of any erection at that early time, from the style alone. No church in Germany is so classical in its details as this, but it will not do to rely on these alone for evidence of date; for a hundred churches may have been built for one portal like this, and though ecclesiastical forms had become

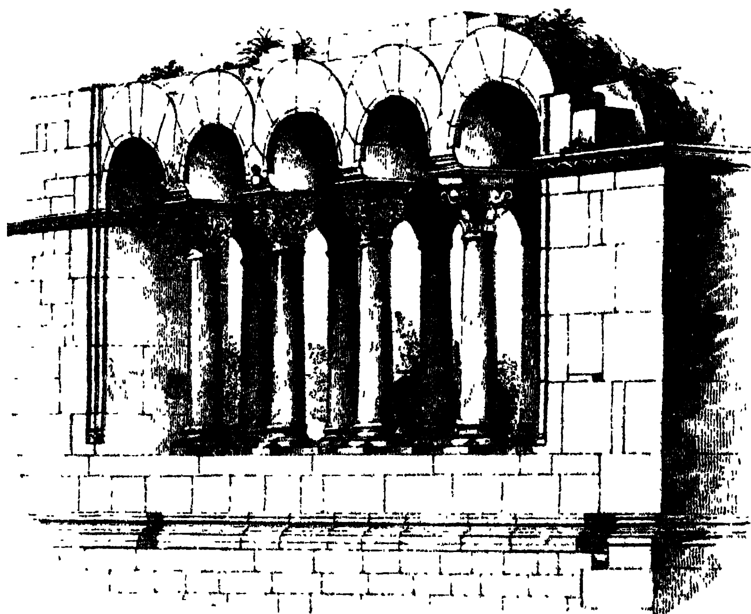


Porch of Convent at Lorsch

sacred, an architect may have felt himself justified in resorting to any amount of Paganism in a semi-secular building. On the whole there seems little doubt but that this porch formed part of the monastic building dedicated in the presence of Charlemagne in 774. It may, however, have been erected by an Italian architect, and consequently be more classical in its details than if the product of some purely Teutonic artist.

Its dimensions are inconsiderable, being only 31 ft. by 24. It has three arches in each face, and above them a series of pilasters supporting straight-lined arches—if the expression may be used. These are interesting, as the same form is currently used in our Saxon architecture, but never with such purely classical details as here. It is, in fact, only the elegance of these that gives interest to this building.

Nothing now remains of the palaces which Charlemagne built at Ingelheim or at Aix-la-Chapelle, nor of the residences of many of his successors, till we come to the period of the Hohenstaufens. Of their palaces at Gelnhausen and on the Wartburg enough remains to tell us at least in what style and with what degree of taste they were erected, and the remains of the contemporary castle of Muenzenberg complete, as far as we can ever now expect it to be completed, our knowledge of the subject.

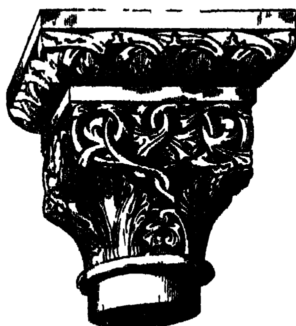


Arcade of the Palace at Gelnhausen. From Müller.

Besides these a considerable number of ecclesiastical cloistered edifices still remain, and some important dwelling-houses in Cologne

and elsewhere; but on the whole our knowledge is somewhat meagre, —a circumstance that is much to be lamented, as, from what we do find, we cannot fail to form a high idea of the state of the domestic building arts at that period.

What remains of the once splendid palace of Barbarossa at Gelnhausen consists first of a chapel very similar to those described in the last chapter; it is architecturally a double chapel, except that the lower storey was used as the hall of entrance to the palace, and not for divine service. To the left of this were the principal apartments of the palace, presenting a façade of about 112 ft. in length, and probably half as high. Along the front ran a corridor about 10 ft. deep, a precaution apparently necessary to keep out rain before glass came to be generally used. Behind this there seem to have been three rooms on each floor; the largest, or throne-room, being about 50 ft. square. The principal architectural features of what remains are the open arcades of the façade, one of which is represented in the last woodcut (No. 470). For elegance of proportion and beauty of detail they are unsurpassed by anything of the age, and certainly give a very high idea of the degree of excellence to which architecture and the decorative arts had then been carried, and, as will be observed, they are purely Gothic in detail, without any trace of the classicality of Lorsch.



471 Capital Gelnhausen. From Möller, 'Denkmäler'

The castle on the Wartburg is historically the most important edifice of its class in Germany, and its size and state of preservation render it remarkable in an artistic point of view. It was in one of its halls that the celebrated contest was held between the six most eminent poets of Germany in the year 1206, which, though it nearly ended fatally to one of them at least, shows how much importance was attached to the profession of literature at even that early period. Here the sainted Elizabeth of Hungary lived with her cruel brother-in-law; here she practised those virtues and endured those misfortunes that render her name so dear and so familiar to all the races of Germany; and it was in this castle that Luther found shelter after leaving the Diet at Worms, and where he resided under the name of Ritter George, till happier times enabled him to resume his labours abroad.

The principal building in the castle where these events took place closely resembles that at Gelnhausen, except that it is larger, being 130 ft. in length by 50 in width. It is three storeys in height, without counting the basement, which is added to the height at one end by the slope of the ground.

All along the front of every storey is an open corridor leading to

the inner rooms, the dimensions of which cannot now be easily ascertained, owing to the castle having been always inhabited, and altered in modern times to suit the convenience and wants of its recent occupiers. In its details it has hardly the elegance of Gelnhausen, but its general appearance is solid and imposing, the whole effect being obtained by the grouping of the openings, in which respect it resembles the older palaces at Venice more than any other buildings of the class. It has not perhaps their minute elegance, but it far surpasses them in grandeur and in all the elements of true architectural magnificence. It has been recently restored, apparently with considerable judgment, and it well deserves the pains bestowed upon it as one of the best illustrations of its style still existing in Europe.



View of the Palace on the Wartburg. From Puttrich.

The castle on the Muenzenberg, like those of Gelnhausen and Wartburg, belongs to the 13th century, and, though less important, is hardly less elegant than either. It derives a peculiar species of picturesqueness from being built principally of the prismatic basalt of

the neighbourhood, the crystals being used in their natural form, and where these were not available, the stones have been rusticated with a boldness that gives great value to the more ornamental parts, in themselves objects of considerable beauty.

None of these castles have much pretension to interest or magnificence as fortifications,—a circumstance which gives an idea of more peaceful times and more settled security than we could quite expect in that age, especially as we find in the period of the pointed style so many and such splendid fortifications crowning every eminence along the banks of the Rhine, and indeed in every corner of the land. These last may, in some instances, have been rebuildings of castles of this date, but I am not aware of any having been ascertained to be so.

There is no want of specimens of conventual buildings and cloisters in Germany of this age, but every one is singularly deficient both in design as a whole and in the elegance of its parts The beautiful arcades of the palaces we have just been describing nowhere reappear in conventual buildings. Why this should be so it is difficult to understand, but such certainly is the fact. The most elegant that is known to exist is probably the cloister to the cathedral at Zurich. It is nearly square, from 60 to 70 ft. each way. Every side is divided into five bays by piers supporting bold semicircular arches, and these are again subdivided into three smaller arches supported by two slender pillars. The arrangement will be understood from the Woodcut (No. 473). This cloister is superior in design to many in France and elsewhere of the same age, its great beauty consists in the details of the capitals and string courses, which are all different, most of them with figures singularly well executed, but many merely with conventional foliage, not unlike the honeysuckle of the Greeks, and not unworthy of the comparison as far as the mere design is concerned, though the execution is rude. The same is the case with the sculptures of the portal; for though they display even less classical feeling, they show an exuberance of fancy and a boldness of handling which we miss entirely in the succeeding ages, when the art yielded to make way for mere architectural mouldings, as if the two could not exist together. The example of Greece forbids us to believe that such is necessarily the case; but in the middle ages it is certainly the case that as the one advanced nearer to perfection, the other declined in almost an equal degree.

The best collection of examples of German convents is found in Boisserée's 'Nieder Rhein.' But neither those of St. Gereon nor of the Apostles, nor St. Pantaleone at Cologne, merit attention as works of art, though they are certainly curious as historical monuments; and the lateral galleries of Sta. Maria in the Capitol are even inferior in design; their resemblance, however, to the style of Ravenna gives them some value archæologically. The same remarks apply to the cloisters at Heisterbach, and even to the more elegant transitional buildings at

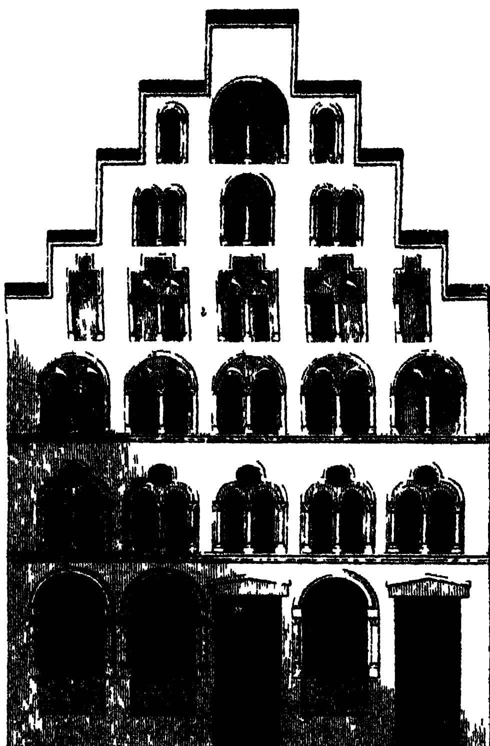
Altenberg. Almost all these examples, nevertheless, possess some elegant capitals and some parts worthy of study, but they are badly put together and badly used, so that the pleasing effect of a cloistered court and conventual buildings is here almost entirely lost. The cause of this is hard to explain, when we see so much beauty of design in the buildings to which they are generally accompaniments.



473 Cloister at Zurich From Chapuy, 'Moyen Age Monumental'

There are several dwelling houses in Cologne and elsewhere which show how early German town-residences assumed the tall gabled fronts which they retained to a very late period through all the changes which took place in the details with which they were carried out. In the illustration (woodcut No. 474) there is little ornament, but the forms of the windows and the general disposition of the parts are

pleasing, and the general effect produced certainly satisfactory. The size of the lower windows is remarkable for the age, and the details are pure, and are executed with a degree of lightness which we are far from considering as a general characteristic of so early a style.



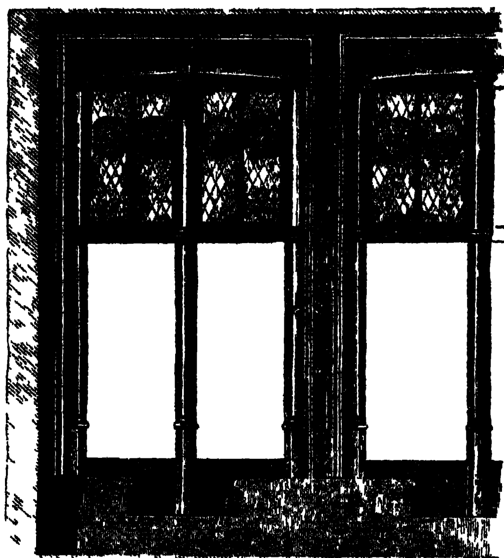
474. Dwelling house, Cologne. From Boisserée.

The windows at the back of the house illustrated in woodcut No. 474, are so large, that were it not for the unmistakeable character of those in front, and of some of its details, we might be inclined to suspect that it belonged to a much more modern age. As shown in the woodcut No. 475, the details are as light and elegant as anything domestic in architecture of the pointed style.

There are several minor peculiarities which perhaps it might be more regular to mention here, but which it will be more convenient to allude to when speaking of the pointed style. One, however, cannot thus be passed over, and that is the form which windows in churches and cloisters were beginning to assume just before the period when the transition to the pointed style took place.

Up to that period the Germans showed no tendency to adopt window tracery, in the sense in which it was afterwards understood, nor to divide their windows into compartments by mullions. I do not even know of an instance in any church of the windows being so grouped together as to suggest such an expedient. All their older windows, on the contrary, are simple round-headed openings, with the jambs more or less ornamented by nook-shafts and other such expedients. At the end of the 12th and beginning of the 13th century they seem to have desired to render the openings more ornamental, probably because tracery had to a certain extent been adopted in France and the Netherlands at that period. They did this first by foiling circles and

semicircles; the former a pleasing, the latter a very unpleasing, form of window, but not so bad as the three-quarter windows—if I may so call them—used in the church of Sion at Cologne (woodcut No. 476) and elsewhere: these, however, are hardly so objectionable as the fantastic shapes they sometimes assumed, as in the examples (woodcut No. 477), taken from St. Guerin at Neuss. Many others might be quoted, the forms of which are constructively bad without being redeemed by an elegance of outline that sometimes enables us to overlook their other faults. The more fantastic of these, it is true, were seldom glazed, but were mere openings in towers or into roofs. These windows are also generally found in transition specimens in which men try experiments before settling down to a new course of design. Notwithstanding this, they are very objectionable, and are the one thing that shakes that confidence which might otherwise be felt in the power of the old German style to have perfected itself without foreign aid.



475 Back Windows in Dwelling-house, Cologne.





476 Windows from Sion Church, Cologne. From Boisserée.





477 Windows from St. Guerin at Neuss. From Boisserée.

CHAPTER V.

POINTED STYLE IN GERMANY.

CONTENTS.

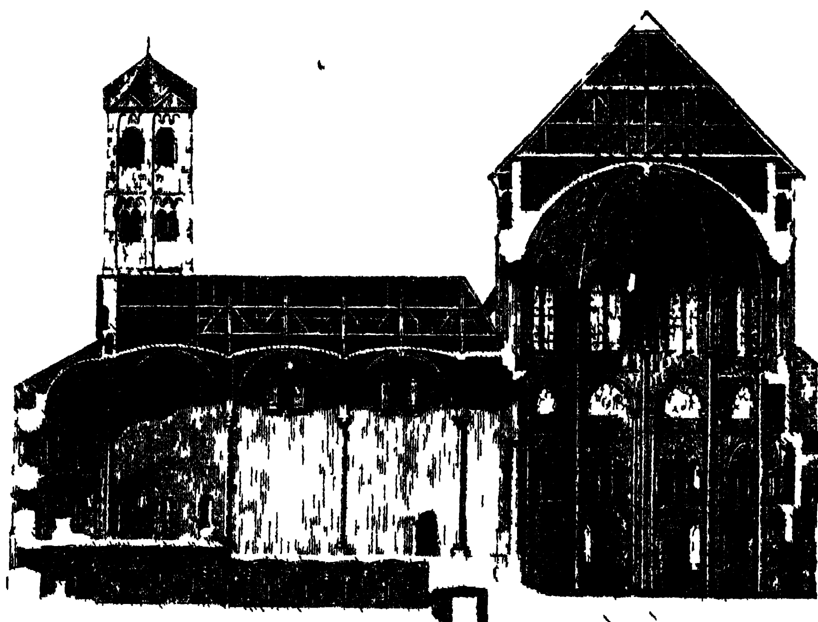
It is scarcely necessary to repeat—what has been already perhaps sufficiently insisted upon—that the Germans borrowed their pointed style from the French at a period when it had attained its highest degree of perfection in the latter country. At all events, we have already seen that the pointed style was commonly used in France in the first half of the 12th century, and that it was nearly perfect in all essential parts before the year 1200, whereas, though there may be here and there a solitary instance of a pointed arch in Germany (though I know of none) before the last-named date, there is certainly no church or building erected in the pointed Gothic style the date of which is anterior to the first years of the 13th century. Even then it was timidly and reluctantly adopted, and not at first as a new style, but rather as a modification to be employed in conjunction with old forms.

This is very apparent in the polygonal part of the church of St. Gereon at Cologne (woodcuts Nos. 478 and 479), commenced in the first year of the 13th century, and vaulted about the year 1227. The plan of the building is eminently German, being in fact a circular nave, as contradistinguished from the French chevet, and is a fine bold attempt at a domical building, of which it is among the last examples. In plan it is an irregular decagon, 55 ft. wide over all, north and south, and 66 ft. in the direction of the axis of the church. Notwithstanding the use of the pointed arch, the details of the building are as unlike the contemporary style of France as is the plan; and is, in fact, nearly a century behind it in the employment of all those expedients which give character and meaning to the true pointed style.

Another church in the same city, St. Cunibert, is a still more striking example of this. Commenced in the first decade of the 13th century, and dedicated in 1248, the very year in which it is said the foundation-stones of the cathedral were laid, it still retains nearly all

the features of the old German style, and though pointed arches are introduced, and even tracery to a limited extent, it is still very far removed from being what can be considered an example of the new style.

More advanced than either of these is the choir of the Cathedral of Magdeburg, said to have been commenced in 1208, and dedicated in 1254. This was built, as before mentioned, to supply the place of the old circular sepulchral church of Otho and his English queen Edith. Hence it naturally took the French chevet form, of which it is, probably, the earliest example in Germany, and which it copies rudely and



378. Section of St. Gereon, Cologne. From Boisserée, Niederrhein. Scale 50 ft. to 1 in.



Plan of St. Gereon, Cologne. From Boisserée. Scale 50 ft. to 1 in.

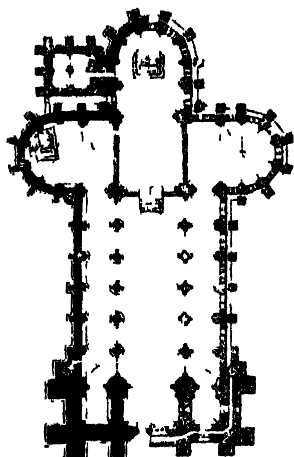
imperfectly in its details. It possesses the polygonal plan, the graduated buttresses, the decorative shafts, and other peculiarities of the French style, and, if found in that country, would be classed as of about the same age as St. Denis. The upper part of the choir and the nave are of very much later date, and will be mentioned hereafter.

A more interesting example of transition than this is the church at Gelnhausen, unfortunately not of well known date, but apparently built in the middle of the 13th century, though the choir, it is said, was not finished till 1370. Its interest lies in its originality, for though the pointed arch is adopted, it is in a manner very different from that followed by the French, and as if the architects were determined to retain a style of their own. In general design its outline is very like that of the church at Sinzig (woodcut No. 451). In it attempts are even made to copy its apsidal galleries, but their purpose is misunderstood, and pillars are placed in front of windows, a blunder afterwards carried at Strasburg and elsewhere, to a far more fatal extent. Taken altogether, the style here exhibited is light and graceful but it neither has the stability of the old Round arched Gothic, nor the capabilities of the French pointed style. The church of Sta Maria attached to the cathedral at Trèves is another of the anomalous churches of this age (1227 to 1243). its plan has already been given (woodcut No 434), and was probably suggested by the form of the old circular building which it supplanted. Perhaps from its proximity to France it shows a more complete Gothic style than either of those already mentioned, still the circular arch continually recurs in doorways and windows, and altogether the uses of the pointed forms and the general arrangement of parts and details cannot be said to be well understood. There is, however, a novelty, truly German, in its plan, and a simplicity about its arrangement, which make it the most pleasing specimen of the age, and standing on the foundation of the old church of Sta. Helena, and grouped with the Dom or cathedral, it yields in interest to few churches in Germany



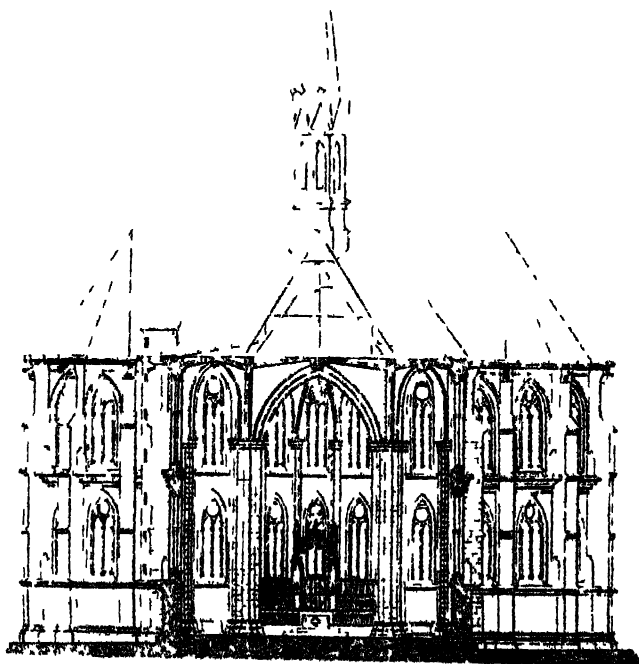
[illegible] East end of Church at Gelnhausen. No scale.

From these we may pass at once to two churches of well-authenticated date and of purely French style. The first that of St. Elizabeth at Marburg, whose name has been already mentioned (p. 603) as adding interest and sanctity to the old castle on the Wartburg. Four years after her death she was canonised, and in the same year, 1235, the foundation was laid of this beautiful church, which was completed and dedicated forty-eight years afterwards, viz., in 1283.



Plan of the Church at Marburg. From Moller's Denkmäler. Scale 100 ft. to 1 in.

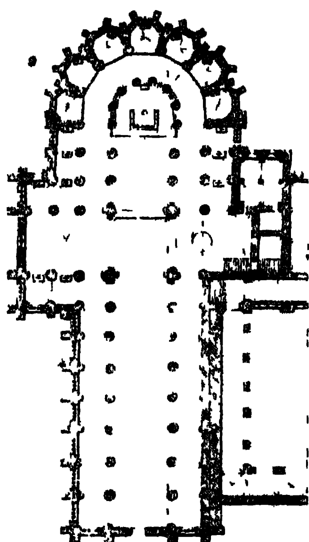
It is a small church, being only 208 ft. in length by 69 in width internally, and though the details are all of good early French style, it still exhibits several *Germanisms*, being triapsal in plan, and the three aisles being of the same height. The latter must be considered as a serious defect, for, besides the absence of contrast, either the narrow side aisles appear too tall or the central one too low.



48 Section of Church at Marburg. Scale 50 ft. to 1 in.

This has also caused the defect of two storeys of windows being placed throughout in one height of wall, and without even a gallery to give meaning to such an arrangement. No French architect ever fell into such a mistake, and it shows how little the builders who could not avoid such a solecism understood the spirit of the style they were copying. The west front with its two spires is somewhat later in date, but of elegant design and is pleasingly proportioned to the body of the church, which is rarely the case in Germany.

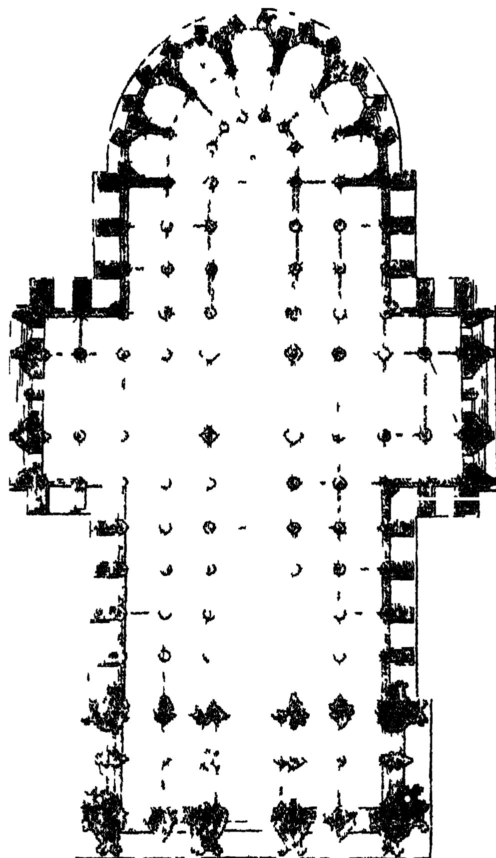
The other church is that at Altenburg, not far from Cologne, on the opposite side of the river Rhine. The foundation-stone was laid in 1255, and the chapels round the choir completed within a few years of that time, but the works were then interrupted, and the greater part of the church not built till the succeeding century. Like all the early churches of the Cistercian Order it is without towers and is extremely simple in its outline and decorations. It is, in fact, almost a copy of the abbey of Pontigny (woodcut No. 382), which was built fully a century earlier, and though it does show some advance in style in the introduction of tracery into the windows, and more variety of outline externally, it is remarkable how little progress it evinces in the older parts. In the subsequent erection there are some noble windows filled with tracery of the very best class, which render this church the best counterpart Germany can produce of our Tintern Abbey, which it resembles in many respects. Indeed, taken altogether, this is perhaps the most satisfactory church of its age and style in Germany, and in the erection of which the fewest faults have been committed. It has been recently rescued from ruin by the King of Prussia, but its extensive conventual buildings have been destroyed by fire.


Plan of Church at Altenburg
Scale 100 ft to 1 in

These examples bring us to the great typical cathedral of Germany, that of Cologne, which is certainly one of the noblest temples ever erected by man in honour of his Creator. In this respect Germany has been more fortunate than either France or England, for though in the number of edifices in the pointed style and in beauty of design these countries are far superior, Germany alone possesses one pre eminent example in which all the beauties of its style are united.

Generally speaking, it is assumed that the building we now see is that

commenced by Conrad de Hochsteden in the year 1248, but more recent researches have proved that what he did was to rebuild or restore the old double-apse cathedral of earlier date. The examples just quoted, however, were no other proof available, are sufficient to show that the Gothic style was hardly then introduced into Germany, and but very little understood when practised. It seems that the present building was begun about the year 1270–1275, and that the choir was completed in all essentials as we now find it by the year 1322.[1] Had the nave been completed at the same rate of progress, it would have shown a wide deviation of style, and the western front, instead of being erected according to the beautiful design preserved to us, would have been covered with stump tracery, and other vagaries of the late German school, all of which are even now observable in the part of the north west tower actually erected. As the body of the church is complete according to the original design, one of its principal beauties is the uniformity of style that reigns throughout, contrasting strongly as it does with the greater number of northern cathedrals whose erection spreads over centuries. In dimensions it is the largest cathedral of northern Europe, its extreme length being 468, its extreme breadth 275, and its superficies 91,464 ft., which is 20,000 ft. more than are covered by



Plan of Cathedral at Cologne. From Boisserée. Scale 100 feet to 1 in.

[1] The best *resumé* of the arguments on this question will be found in the controversy carried on by F. de Verneilh, the Baron de Roisin, and M. Boisserée, in Didron's 'Annales Archéologiques,' vol. vii. *et seq.*

[2] There is a slight error in the scale of this plan, the artist in reducing it having used the scale of French instead of English feet. It ought to be 1-16th larger.

Amiens, and one-fourth more than Amiens was originally designed to cover. On comparing the eastern halves of these two from the centre of the intersection of the transept, it will be found that Cologne is an exact copy of the French cathedral, not only in general arrangement, but also in dimensions, the only difference being a few feet of extra length in the choir at Cologne, which is more than made up at Amiens by the projection of the Lady Chapel. The nave, too, at Cologne is one bay less in length. On the other hand, the German building exceeds the French by one additional bay in each transept, the two extra aisles in the nave, and the enormous substructures of the western towers. All these are decided faults of design into which no French architect would have fallen.

Looking at Cologne in any light, no one can fail to perceive that its principal defect is its relative shortness. If this was unavoidable, at least the transept should have been omitted altogether as at Bourges, or kept within the line of the walls, as at Paris, Rheims, and elsewhere. It is true, our long low English cathedrals require bold projecting transepts to relieve their monotony; but at Cologne their projection detracts both internally and externally from the requisite appearance of length. Indeed, this seems to have been suspected at the time, as the façades of the transepts were the least finished parts of the building when it was left, and the modern restorers would have done well if they had profited by the hesitation of their predecessors, and omitted an expensive and detrimental addition.

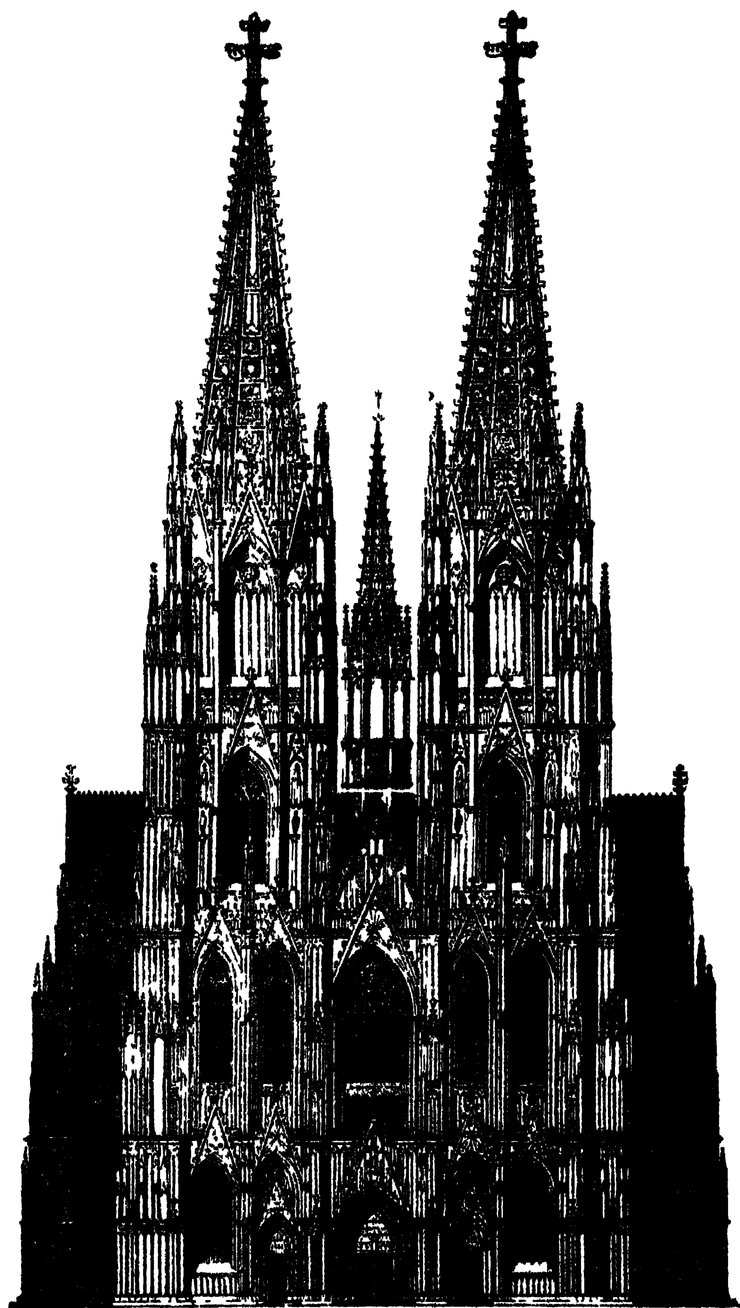
Another defect before alluded to is the double aisles of the nave. It is true these are found at Paris, but they were an early experiment. At Bourges the fault is avoided by the aisles being of different heights; but in none of the best examples, such as Rheims, Chartres, or Amiens, would the architects have been guilty of dispersing their effects or destroying their perspectives as is done at Cologne, and now that the whole of the interior is finished those defects of proportion are become more apparent than they were before. The clear width of the nave is 41 ft. 6 inches between the piers, its height 155 ft., or nearly four times the width – a proportion altogether intolerable in architecture. And this defect is made even more apparent here by the aisles being together equal in width to the nave, while they are only 60 ft. in height. Besides the defect of artistic disproportion, this exaggerated height of the interior has the further disadvantage of dwarfing to a painful extent the human beings who frequent it. Even the gorgeous ceremonial of the Catholic Church and their most crowded processions lose all their effect by comparison with the building in which they are performed. Were a regiment of Life Guards on horseback to ride down the central aisle at Cologne, they would be converted into pigmies by the 140 ft. of height above them. Lateral spaciousness has not the same dwarfing effect; when all are standing on the same floor, distance does not diminish in a

building more than in the open air, and with that effect we are familiar, but great height in a room is unusual, and in proportion as it affects the mind with awe or astonishment does it diminish the appearance of those objects with which we are familiar. Perhaps, however, the most striking defect of the internal design is the want of repose or subordination of parts: 50 pillars practically identical in design, and spaced nearly equally over the floor, and beyond them everywhere a wall of glass. If the four central piers had been wider spaced, or of double the section they now are, or had there been any plain wall or any lateral chapels anywhere it would have been better. Notwithstanding all these defects, it is a glorious temple; but so mathematically perfect, that not one little corner is left for poetry, and it is consequently felt to be infinitely less interesting than many buildings of far less pretensions.

Externally the proportions are as mistaken, if not more so than those of the interior; the mass and enormous height of the western towers—actually greater, according to the design, than the whole length of the building: if they are ever completed, will give to the whole cathedral a look of shortness, which nothing can redeem. With such a ground-plan a true architect would have reduced their mass one-half, and their height by one-third at least.

Besides its great size, the cathedral of Cologne has the advantage of having been designed at exactly the best age, while, as before remarked, the cathedrals of Rheims and Paris were a little too early, St. Ouen's too late. The choir of Cologne, which we have seen to be of almost identical dimensions with that of Amiens, excels its French rival internally by its glazed triforium, the exquisite tracery of the windows, the general beauty of the details, and a slightly better proportion between the height of the aisles and clerestory. But this advantage is lost externally by the forest of exaggerated pinnacles which crowd round the upper part of the building, not only in singular discord with the plainness of the lower story, but hiding and confusing the perspective of the clerestory, in a manner as objectionable in a constructive point of view as it is to the eye of an artist. Decorated construction is, no doubt, the great secret of true architecture; but like other good things, this may be overdone. One half of the abutting means here employed might have been dispensed with, and the other half disposed so simply as to do the work without the confusion produced. When we turn to the interior to see what the vault is, which this mass of abutments is provided to support, we find it with all the defects of French vaulting—the ribs few and weak, the ridge undulating, the surfaces twisted, and the general effect poor and feeble as compared with the gorgeous walls that support it. Very judicious painting might remedy this to some extent, but as it now stands the effect is most unpleasing.

The noblest as well as the most original part of the design of this cathedral is the western façade (woodcut No. 486). Had this been



Intended West rn Façade of Cathedral of Cologne. From Boisseree.

completed, it would have risen to the height of 510 ft. This front, considered as an independent feature, without reference to its position, is a very grand conception. It equals in magnificence those designed for Strasburg and Louvain, and surpasses both in purity and elegance, though it is very questionable if the open work of the spires is not carried to far too great an extent, and even the lower part designed far too much by rule. M. Boisserée says, "the square and the triangle here reign supreme," and this is certainly the case: every part is designed with the scale and the compasses, and with a mathematical precision perfectly astonishing; but we miss all the fanciful beauty of the more irregular French and English examples. The storied porches of Rheims, Chartres, and Wells comprise far more poetry within their limited dimensions than is spread over the whole surface of this gigantic frontispiece. Cologne is a noble conception of a mason, but these were the works of artists in the highest sense of the word.

It is certainly to be regretted that there is no contemporary French example to compare with Cologne, so that we might have been enabled to bring this to a clearer test than words can do. St. Ouen's comes nearest to it in age and style, but it is so very much smaller as hardly to admit of comparison, for though the length of the two churches is nearly identical, the one covers 91,000 square feet, the other little more than half that, or only 47,000. Yet so judicious is the disposition of the smaller church, and so exquisite its proportions, that notwithstanding the late age of its nave, and the inappropriateness of its modern front, it is internally a more beautiful and almost as imposing a church as that of Cologne, and externally a far more pleasing study as a work of art. Had Marc d'Argent commenced his building at the same time as the builder of Cologne, and seen it completed, or had he left his design for it prior to 1322, even with its smaller dimensions it would have been by far the nobler work of art, of the two. These, however, are after all but vain speculations. We see in Cologne the finest specimen of masonry attempted in the middle ages; and notwithstanding its defects, we may hope to see in the completed design a really beautiful and noble building, worthy of its builders and of the religion to which it is dedicated.

Fortunately we are not left solely to the drawings of the façade of Cologne to enable us to judge of what the effect of these open-work spires would be if completed; for at Friburg, in the Brisgau, there is a contemporary example, commenced in 1283, and finished in 1330. This fine spire is identical in style with the Cologne designs, and perhaps on the whole even better, certainly purer and simpler both in outline and detail, though it is not clear that the richer ornament of Cologne would not be more in accordance with this description of lace work.

The total height of the spire at Friburg is 385 ft. from the ground,



View of the Church at Friburg From Moller's 'Denkmaler'

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and is divided into three parts. The lower portion is a square, plain and simple in its details, with bold prominent buttresses, and containing a very handsome porch. The second is an octagon of elegant design, with four triangular pinnacles or spirelets at the angles, which break most happily the change of outline, and out of this rises, somewhat abruptly, the spire 155 ft. in height. An English architect would have placed eight bolder pinnacles at its base; a French one would have used a gallery, or taken some means to prevent the cone from merely resting on the octagon. This junction between the two is poor and badly managed; but after all, the question is, whether the open spire is not a mistake, which even the beauty of detail found here cannot altogether redeem. It is not sufficient to say it is wrong; because a spire is a roof, and this is not. It is true a spire was originally a roof, and that it still retains the place, and should consequently suggest the idea of one; but this is not absolutely indispensable; and if the tower be insufficient to support the apparent weight of a solid spire, or for any such reason, the deviation would be excusable, but such is not the case here, nor at Cologne.

Indeed, it seems that the whole is only another exemplification of the ruling idea of the German masons, an excessive love of "*tours de force*," and an inordinate desire to do clever things in stone, which soon led them into all the vagaries of their after Gothic; here it is comparatively inoffensive, though I still feel convinced that if one-half the openings of the tracery were filled up, or only a central trefoil or quatrefoil left open in each division, the effect would be far more pleasing and satisfactory.

In the spires that flank the transepts, the open work is wholly unobjectionable, owing to the smallness of the scale; but in the main and principal feature of the building the case is very different: dignity and majesty are there required, and the flimsiness, as it might almost be called, of the open work goes far to destroy this.

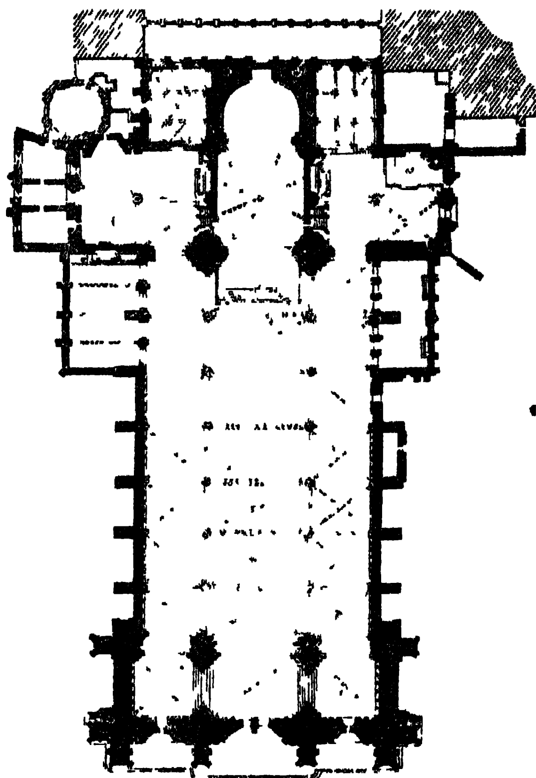
The nave of this church is a fair specimen of the German Gothic of the age, being contemporary with the spire, or perhaps of a little earlier date, but the want of the triforium internally, and the consequent heavy mass of plain wall over the pier-arches, give it a poor and weak appearance. The choir, a work of the 15th century, runs into all the extravagance of the later German style, its only merits being its size and lightness.

Of the other open-work spires of Germany, one of the most beautiful is that of Thann in Alsace, in which the octagonal part is so light that anything more solid than the tracery that forms the spires would seem to crush it.

Besides these, there is a pleasing example at Esslingen; another attached to the cathedral at Meissen, in favour of which nothing can be said; and those adorning the two towers of the façade of the cathe-

dral of Berne, which, because they are so small relatively to the towers they surmount, and are in fact mere ornaments, are pleasing and graceful terminations to the front.

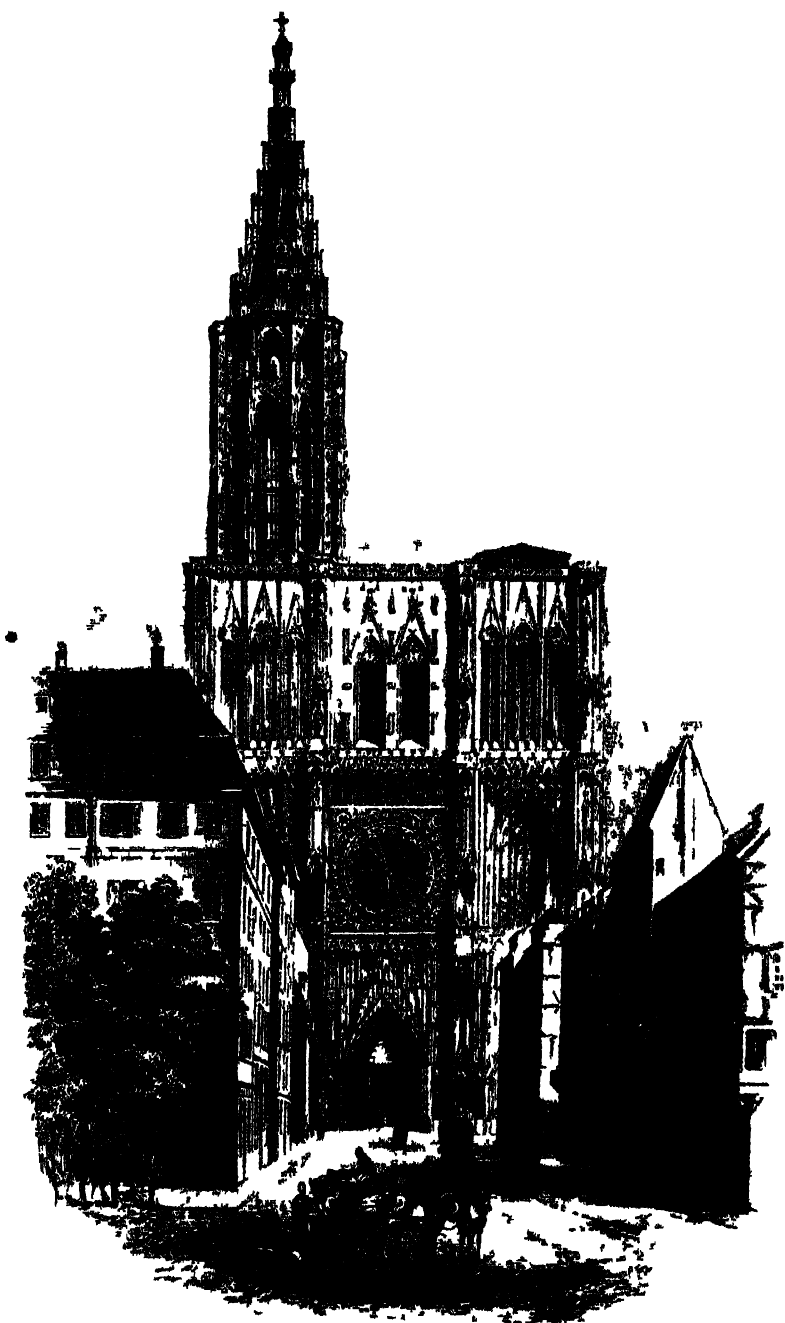
Next in rank to Cologne among German cathedrals is that at Strasburg. It is, however, so much smaller as hardly to admit of a fair comparison, covering, even with its subsidiary adjuncts, little more than 60,000 square feet. The whole of the eastern part of this church belongs to an older basilica, built in the 11th and 12th centuries, and is by no means remarkable either for its beauty or its size, besides being so overpowered by the nave, which has been added to it, as to render its appearance somewhat insignificant. The nave and the western front are the glory and boast of Alsace, and possess in a remarkable degree all the beauties and defects of the German style.



Plan of Strasburg Cathedral. Scale 100 ft. to 1 in.

It is not known when the nave was commenced, but probably in the early half of the 13th century, and it seems to have been finished about the year 1275, a date which, if authentic, is in itself quite sufficient to settle the controversy as to whether any part of Cologne is of an earlier age, everything we see in Strasburg being of an older style than anything in that church.

Be this as it may, the details are pure and beautiful, and the design of singular boldness. The central aisle is 55 ft. wide from centre to centre of the piers, and the side-aisles 38 ft. wide, while the corresponding dimensions at Cologne are only 49 ft. and 25 ft. respectively. Notwithstanding this, the vault at Strasburg is only 101 ft. in height against 155 ft. at Cologne. The consequence is, that measured



4[illegible] West Front of Cathedral at Strasburg

from centre to centre the central aisle at Cologne is more than three times as high as it is wide, while at Strasburg it is less than twice. The whole width of the more northern example is practically equal to the height—at Strasburg it is one-fifth less; but the one having only three aisles, while the other has five, makes all these discrepancies still more apparent. Had the architect of Cologne, instead of introducing an external aisle, only increased the dimensions of Strasburg by one-fifth, retaining all its proportions, he would both externally and internally have produced the noblest building of the middle ages. As it is, the smaller nave of Strasburg is infinitely superior in proportion and apparent dimensions to that of the larger building.

This comparative lowness of the nave at Strasburg is greatly in its favour, as the length, which is only 250 ft., is made the most of, and the shortness of the cathedral is not perceived.

It does not appear that Erwin von Steinbach had anything to do with this part of the structure, beyond repairing the vault when damaged by fire in 1298, at which time he also introduced some new features of no great importance, but sufficient in some degree to confuse the chronology. What he really did, was to commence the western façade, of which he laid the foundation in 1277, and superintended the erection till his death, 41 years afterwards, when he was succeeded by his sons, who carried it up to the platform in 1365.

The Germans, however, wishing to find a name to place in their Walhalla, and mistaking entirely the system on which buildings were carried out in the middle ages, have tried to exalt Erwin into a genius of the highest order, ascribing to him not only the nave, but also the design of the spire as it now stands. If he had anything to do with the former, he must have been promoted at a singularly early age to the rank of master-mason, and have been a most wonderfully old man at the time of his death. and if he designed the spire, he must have had a strangely prophetic spirit to foresee forms and details that were not invented till a century after his death! The fact is, Erwin did no more than every master-mason of his age could do. There is no novelty or invention in his design, and only those mistakes and errors which all Germans fell into when working in Pointed Gothic. In the first place, the façade is much too large for the church, which it crushes and hides; and instead of using the resources of his art to conceal this defect, he made the vault of the ante-chapel equal in height to that of Cologne, the result being that the centre of the great western rose-window is just as high as the apex of the vault of the nave. It is true it can be seen in perspective from the floor of the church, but the arrangement appears to have been expressly designed to make the church look low and out of proportion.

The spiral staircases at the angles of the spire are marvels of workmanship, and the whole is well calculated to excite the wonder of the

vulgar, though it must be condemned by the man of taste as very inferior in every respect to the purer designs of an earlier age.

It is not known whether the original design comprised two towers, like those of the great French cathedrals, or was intended to terminate with the flat screen façade. Probably the latter was the case, as mass, and not proportion, seems to have been this architect's idea of magnificence.

The spire that now crowns this front, rising to a height of 468 ft. from the ground, was not finished till 1439, and betrays all the faults of its age. The octagonal part is tall and weak in outline, the spire ungraceful in form, and covered with an unmeaning and constructively useless system of tracery.

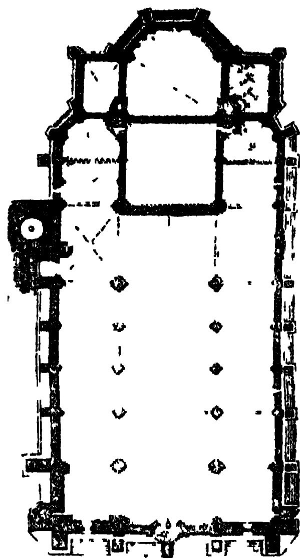
Besides the fault of proportion for which the design of Erwin is clearly blameable, all his work betrays the want of artistic feeling which is characteristic of the German mason. Every detail of the lower part of the front is wire-drawn and attenuated. The defect of putting a second line of unsymmetrical tracery in front of windows, the first trace of which was remarked upon in speaking of Gelnhausen, is here carried to a painful extent. The long stone bars which protect and hide the windows are admirable specimens of masonry, but they are no more beauties than those which protect our kitchen windows in modern times. The spreading the tracery of the windows over the neighbouring walls, so as to make it look large and uniform, is another solecism found both here and at Cologne, utterly unworthy of the art, and not found in, I believe, a single instance in France and England, where the style was so much better understood than in Germany.

Altogether the façade of the cathedral at Strasburg is imposing from its mass, and fascinating from its richness, but there is no building in either France or England where such great advantages have been thrown away in so reckless a manner and by so unintelligent a hand.

The cathedral at Ratisbon is a far more satisfactory specimen of German art than that of Strasburg. It is a small building, only 272 ft. in length, and 114 in breadth internally, and covering about 32.000 sq. ft. It was commenced in the year 1275; the works were continued for more than two centuries, and at last abandoned before the completion of the church.

As will be seen from the plan (woodcut No. 489), it is much more German than French in its arrangements, having three apses instead of a chevet. The side aisles are wide in proportion to the central one, the transept subdued, and altogether it is more like the old round-arched Gothic basilica than the French church. It has two storeys of windows in the apse, as at Marburg, where the arrangement is unmeaning and offensive, while here the nave has side aisles and a clerestory: thus the upper windows of the apse are a continuation of the clerestory windows of the nave, and the effect is not unpleasing. The details of this church

are singularly pleasing and elegant throughout, and produce on the whole a harmony not commonly met with in German churches of this age and style.



4[illegible]. Plan of Ratisbon Cathedral. Scale 100 ft. to 1 in.

If size were any real test of beauty, the cathedral at Ulm ought to be one of the finest in Germany, being just twice as large as that at Ratisbon, covering 63,800 ft. So far also as constructive merit is concerned, it is perhaps the best; for though I have no plan I can quite rely upon, I believe that not more than one fifteenth of the area is occupied by the supports, nor is this church surpassed by many in sharp and clever mechanical execution of the details. With all this it would be difficult to find a colder and more unimpressive design than is here carried out: both internally and externally, it is the work of a very clever mason, but of a singularly bad artist. The freemasons had, when it was founded (1377), got possession of the art in Germany, and here they carried their system to its acmé, and with a result which every one with the smallest appreciation of art can perceive at once. It is said that in the original design the outer range of pillars, dividing the side-aisle into two, was to have been omitted, which would have made it even worse than it is. Its one western tower, had it been completed, would have been more beautiful than that at Strasburg, and besides being actually higher (483 ft., according to the still preserved design), would have appeared taller from standing alone. Its form, too, is more pleasing, and though its details are far more suited for execution in cast iron than in stone, it would have rivalled, perhaps surpassed, those at Antwerp or Mechlin. It was, however, carried to the height of only 220 ft., when, either from the want of funds or the failure of the foundation, the work was abandoned.

St. Stephen's of Vienna ranks fourth or fifth among the great churches of Germany, both for size and richness of decoration. Its length, internally, is 337 ft., its width 115, and it covers about 52,000 square ft. It is situated too near the eastern edge of the province for us to expect anything very pure or perfect as an example of Gothic art, and it certainly sins against every canon that a purist would enact. The three aisles are nearly equal in width and height,—there is no clerestory— no triforium. There are two very tall windows in each bay. The pillars are covered with sculpture, more remarkable for its richness than its

appropriateness, and the tracery of the vaults is very defective. Yet with all these faults, and many more, no one with a trace of poetry in his composition can stand under the great cavernous western porch and not feel that he has before him one of the most beautiful and impressive buildings in Europe. A good deal of this may be owing to the colour. The time-stain in the nave is untouched, the painted glass perfect, and the whole has a venerable look, now too rare. The choir is being smartened up, and its poetry is gone. Meanwhile no building can stand in more absolute contrast with the cathedral at Cologne than this one at Vienna. The former fails because it is so coldly perfect that it interests no one; this impresses, though offending against all rules, because it was designed by a poet. We feel as if the Rhenish architect would certainly have been Senior Wrangler at Cambridge had he tried, but that his Danubian brother was fit to be Laureate at any court in Germany.

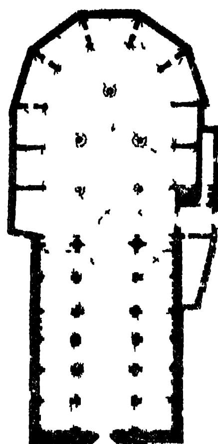
It is the same with the exterior. The one great roof running over the three aisles, and covering all up like an extinguisher, ought to be abominable, but it gives a character to the whole that one would be sorry to miss, and is not out of harmony with the exceptional character of the whole building. The great glory of this church consists in its two spires, one of which is finished, the other only carried up to about one third of its intended height. Their position is unfortunate, as they are placed where the transepts should be, so that they neither form a façade nor dignify the sanctuary; they occupy in fact the position of the lateral entrances which the Germans were so fond of, and are the principal portals of the building. In itself, however, the finished spire is the richest, and, excepting that at Friburg, perhaps the most beautiful of all those in Germany. Its total height, exclusive of the eagle, is 441 ft., rising from a base of about 64 ft., and gradually sloping from the ground to the summit, where it forms a cone of the unprecedentedly small angle of little more than 9 degrees. The transition from the square base to an octagonal cone is so gradual and so concealed by ornament, that it is difficult to say where the tower ends and the spire begins. This gives a confusion and weakness to the design by no means pleasing. Indeed the whole may be taken as an exemplification of all the German principles of design carried to excess, rather than as a perfect example of what such an object should be. It deserves to be remarked that there is no open work in the spire, though, from its own tenuity and the richness of the tower, there is no example where it would have been less objectionable.

Had the architects of Eastern Germany continued to practise the style a little longer before the introduction of the Renaissance art, it is probable they would have gone further from French forms than they did even in St. Stephen's. Among the novelties they did employ one of the most remarkable was the invention of flat-roofed choirs. The plan of the Franciscan church at Salzburg (woodcut No. 491) will explain what is

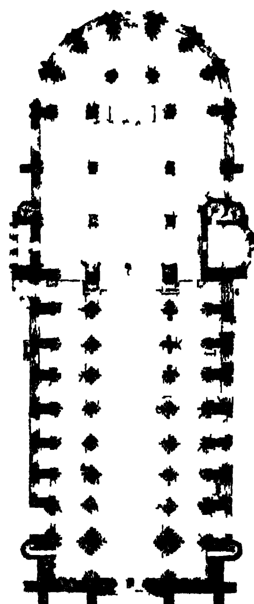


490. View of the Spire of St. Stephen's, Vienna. From 'Chiesi Principali d' Europa.'

meant by this.[1] The nave of the church is a very beautiful example of the round arched style, so pure and elegant in its details as to betray its proximity to Italy, and without a trace of pointed architecture though dating as late as 1230-1260. In the year 1470 it was determined to rebuild the choir. In France this would have been effected by an extended range of chapels round a chevet; in England by several bays added to the length. In Germany they did better: they placed five slender piers on the floor; these, though 70 ft. in height, are less than 4 ft. in diameter, yet they appear sufficient for the task they have to perform, while their slenderness prevents them from interrupting the view in any direction. From these rose a vault, extending on the same level from wall to wall with a tree-like growth, from each of these pillars without any exertion or constructive difficulty, the choir thus forms a hall 66 ft. wide by 160 in length, exclusive of the side chapels which surround it in two storeys. A dome in that position might have been more sublime, but passing through the confined vestibule of the nave, the expansion into the light and airy choir produces one of the most magical effects to be found in any church in Europe. The details of the vault, as is only too usual at that age, are not constructively correct, but if this design had been carried out with English fan tracery nothing could well be more beautiful. In plan and dimensions this choir very nearly resembles Henry VII.'s chapel at Westminster, but in design the German surpasses the English example to a greater extent than it falls short of it in beauty of detail.



491. Plan of the Franciscan Church at Salzburg. Scale 100 ft. to 1 in.



492. Plan of St. Lawrence's Church, Nuremberg. Scale 100 ft. to 1 in.

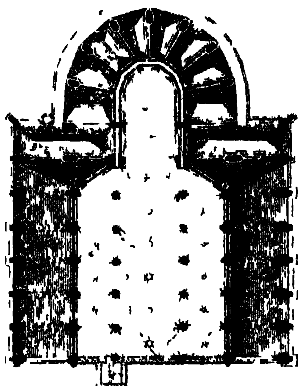
St. Lawrence's Church at Nuremberg is a larger and better known example of the same class of design. It was commenced in 1275, and finished after 202 years' labour. The style of this church is consequently much more uniform; and though not large, being only 300 ft. long by 100 in width, its proportions are so good that it is

[1] From the 'Jahrbuch der Central Commission zur Erhaltung der Baudenkmale,' vol. ii. p. 37.

a very beautiful and impressive example of the style. It is a little too late in its details, but beautiful in its arrangements. The view standing by the pulpit and looking towards the east is as poetic as that of St. Stephen, and as spacious as at Salzburg. The two rows of windows round the apse are a defect that might easily have been avoided, but which the beauty of the painted glass goes far to redeem.

Externally the western front, though on a small scale, only 250 ft. in height, is better proportioned and more pleasing in its detail than almost any other double-spire façade in Germany that can be named. The real defect of the exterior is the overwhelming roof of the nave and the want of external buttresses, which with bold pinnacles would have gone far to correct its heaviness.

St. Sebald's church at Nuremberg seems originally to have been a chevet turned the wrong way, to the eastern end of which a choir of somewhat exaggerated dimensions was added at a later age (1303-1377). This choir was not only placed unsymmetrically as regards the axis of the older part, but also as regards its own parts. It is, however, lofty and airy, with the same arrangement as to vaulting as the two last examples, but, being lighted by a single row of tall windows, it avoids the defect of the two-storeyed arrangement. These windows are 50 ft. high, and barely 8 ft. in width, which is far too narrow in proportion. Their mullions are nearly 40 ft. in height; and, though triumphs of German masonic skill, are most unpleasing features of architectural design.

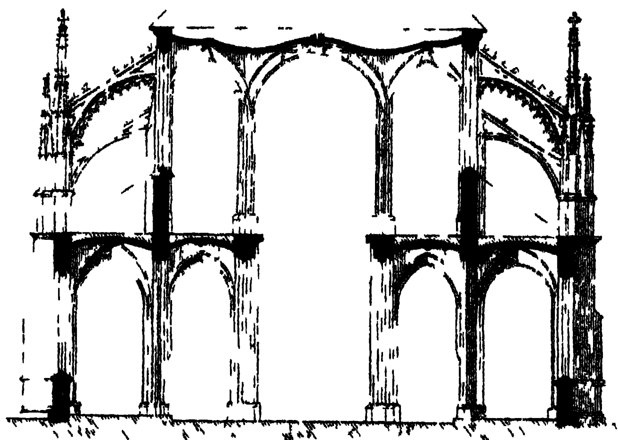


193 Plan of the Church at Kuttenberg, taken above the roof of the aisles. Scale 100 ft. to 1 in.

When the Germans had once mastered this invention in vaulting they applied it wherever an opportunity presented itself, and in one instance at least to a five-aisled basilica. It is true the church of St. Barbara at Kuttenberg,[1] in Bohemia, is only a fragment, but it is a very remarkable one. The building was apparently commenced about the year 1358, and completed, as far as we now see it, in 1548. Its dimensions are smaller than those of Cologne, being only 126 ft. across its five aisles instead of 150; but its great peculiarity is that the roof of the first aisle next the central one on either side is converted into a great gallery, as shewn in the section, and the vault carried flat above the three. To a certain extent this prevents the clerestory windows from being so easily seen from all parts of the floor of the church, but when seen it is at a better angle; and, altogether, a play of light and

[1] See 'Mittelalterliche Kunstdenkmale Ostereichs,' vol. i. p. 171.

shade and a poetry of effect is introduced which more than compensate for this. The double apse may be the most characteristic feature of German mediæval churches, but this seems to be the highest and most poetic of their inventions.



111. Section of the Church of St. Barbara, Kuttenberg. Scale 50 ft. to 1 in.

The church of St. Veit at Prague is very similar to that at Kuttenberg. It was commenced about the year 1346, and, like it, was meant to imitate and rival Cologne. Its proportions, however, are better, being only 105 ft. high internally, with a width of 130 ft., but its details, as might be expected from its date, are very far inferior to those of its northern rival. Like Kuttenberg, it is now only a choir—a fragment of what was intended; and it neither possesses the poetry of its Bohemian rival nor the perfect masonry of Cologne, and perhaps more resembles Beauvais than any other church of its age.

In Bavaria there are several churches erected later in the style, which in spite of many defects of detail are still very imposing edifices. The cathedral at Munich is a well known example of this style, but a better specimen is the St. Martin's church at Landshut (1404). As in almost all these examples, the three aisles are the same height, and outside are covered by one gigantic roof. Internally this gives great spaciousness, but externally the exaggerated height of the windows and the size of the roof are great defects. The most beautiful feature at Landshut is the spire, which rises to the height of 425 ft., and is as gracefully and appropriately designed as any other which has been com-

pleted in Germany of its age. Though not so rich as St. Stephen at Vienna, it has not its confusion of outline, and it also avoids the somewhat ambiguous beauties of the open-work spires so frequent in this country.

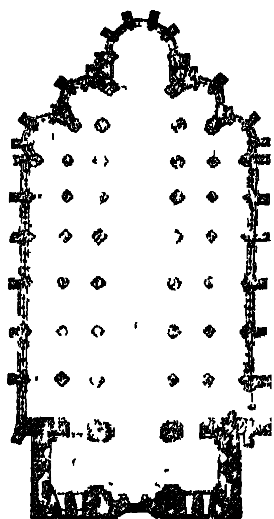
In adopting the pointed-arched style, the Germans generally abandoned their favourite double apse arrangement; and though they seldom adopted the whole of the chevet, preferring their own simple apse to it, it seems to have been only, or at least generally, where an old Round Gothic double apse church existed previously, that this arrangement was continued after the commencement of the 13th century. Naumberg, the nave of which was commenced about the year 1200, is an instance of this. This was no doubt inserted between two older apses, both of which were rebuilt at a later age, forming two very beautiful and extensive choirs. The whole makes a very pleasing and interesting church, though there certainly is an architectural incongruity in entering by the side, and the double apse arrangement is unfamiliar and nearly unintelligible to us at the present time.

A still better example is the cathedral at Bamberg, which, judging from its date, ought to be in the complete pointed style. Though its east end dates from 1220, and the west 1257, it is still so completely transitional, and the pointed form so timidly used, that in France it would certainly be [illegible] that there was a mistake of at least a century in these dates. It [illegible] nevertheless a very fine church, and its four elegant towers flanking the two apses give it a local and at the same time a dignified character which we often miss in the imitations of French churches, too common at this age. At Naumberg unfortunately only three towers exist, the fourth never having been erected, which considerably mars the effect when comparing it with the more complete edifice at Bamberg.

Augsburg is another example of this class; although of a good age, the rebuilding having commenced in 1366, it is one of the ugliest and worst designed buildings in Germany, with nothing but its size to redeem it. It is peculiar in having a chevet at one end and an apse at the other.

The principles of the French schools of art seem to have prevailed to a much greater extent in the north of Germany, and we have in consequence several churches of more pleasing design than those last mentioned. Among these is the cathedral at Halberstadt, a simple but beautiful church, not remarkable for any very striking peculiarities, but extremely satisfactory in general effect. The great church, too, at Xanten may be quoted as another very favourable specimen, though far more essentially German in its arrangement. The western front is older than the rest, and is German, wholly without French influence. It has no central entrance, but has two bold massive towers. The church behind these is of the latter part of the 13th and the

14th centuries. It is generally good in detail and proportion, but is arranged, as seen in the plan, in a manner wholly different from the French method, though in a form common in all parts of Germany. The polygonal form is retained both for the apse and for the chapels, but without adopting the chevet with its surrounding aisle, nor the absolute seclusion of the choir as a priestly island round which the laity might circulate, but within whose sacred precincts they were not permitted to enter. It is observable that in those districts where chevets are most frequent, generally speaking, the Catholic religion has had the firmest hold. On the other hand, where the people had declined to adopt that arrangement, it was a sign that they were ripe for the Reformation, which accordingly they embraced as soon as the standard of rebellion was raised.



19[illegible]. Plan of Church at Xanten. Scale 100 ft. to 1 in.

In the south of Germany we have already had occasion to remark on the tendency to raise the side-aisles to the same height as the central one, which eventually became the rule in the great brick churches of Munich and other parts of Bavaria, the piers or pillars becoming mere posts supporting what was practically a horizontal roof. In the north the tendency seems to have been the other way — to exaggerate the clerestory at the expense of the aisles. A notable example of this is found in the nave at Magdeburg, where the side-aisles are practically little more than one-third of the whole height of the church; and there being no triforium, the clerestory windows rest apparently on the vault of the side-aisle. This has now no doubt a disagreeable effect, but when filled with painted glass the case must have been different, and the effect of this immense screen of brilliant colours must have been most beautiful.

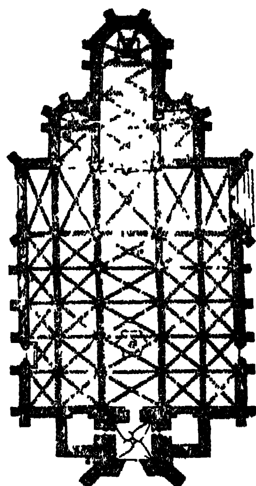
A better example of this arrangement is found in the cathedral at Metz, where, from its proximity to France, the whole style was better understood, and the details are consequently more perfect. Externally, it must be confessed, the immense height of the clerestory gives to the church a wire-drawn appearance, very destructive of architectural beauty: but internally, partly from the effect of perspective and partly from the brilliancy of such glass as remains, criticism is disarmed. The result, however contrary to the rules of art, is most fascinating; and at all events, though an error, it is in a far more pleasing direction than that of the southern architects.

These may perhaps be considered the great and typical examples of the pointed style as applied to church architecture in Germany; but besides these there are numerous examples scattered all over the country, many of which, as being less directly under French influence, display an originality of design, and sometimes a beauty, not to be found in the larger examples.

Among these is the church at Limburg on the Lahn. This building belongs to the early part of the 13th century, and exhibits the transitional style in its greatest purity, and with less admixture of foreign taste than is to be found in almost any subsequent examples. Though measuring only about 180 ft. by 75, it has, from its crown of towers and general design, a more imposing appearance externally than many buildings of far larger dimensions. The interior is also singularly impressive.

The church of St. Emeran at Ratisbon, a square building of about the same age and style, is chiefly remarkable for the extensive series of galleries which surround the whole of the interior, being in fact the application of the system of double chapels (see p. 588) to a parish church; not that vaulted galleries are at all rare in Germany, but that generally speaking they are insertions; though here they seem part of the original design.

At Schulpforta in Saxony there is a very elegant church of the best age, and both in design and detail very different from anything else in Germany. Its immense relative length gives it a perspective rarely found in this country, where squareness is a much more common characteristic.



496. Plan of Marien Kirche at Mühlhausen. Scale 100 ft. to 1 in.

At Oppenheim is a church the choir of which is a simple and pleasing German apse with elongated windows. The nave, four bays in length, is an elaborate specimen of German ornamentation in its utmost extravagance, and, considering its age, in singularly bad taste, at least the lower part. The clerestory is unobjectionable, but the tracery of the windows and walls of the side-aisles shows how ingeniously it was possible to misapply even the beautiful details of the early part of the 14th century. In St. Werner's Chapel, Bacharach, on the Rhine, this is avoided, and, as far as can be judged from the fragment that remains, it must, if it ever was completed, have been one of the best specimens of German art in that part of the country. The nave of the cathedral at Meissen, though marked by many of the faults of German design, is still a beautiful example of well-understood detail.

As a purely German design nothing can surpass the Maria Kirche at Muhlhausen (woodcut No. 496). The nave is nearly square, 87 ft. by 105, and is divided into five aisles by four rows of pillars supporting the vaults, all at the same level. To the west is a triple frontispiece, and to the east (woodcut No 497) the three apses, which form



497 View of Maria Kirche at Muhlhausen From Puttrich, 'Denkmaler.'

so favourite an arrangement with the Germans. Externally its attenuation is painful to one accustomed to the more sober work of French architects, but this fault is not here carried to anything like the excess found in other churches. Internally the effect is certainly pleasing, and altogether there are perhaps few better specimens of purely German design in pointed architecture. The church of St. Blasius, in the same town, is far from being so good an example of the style.

The cathedral at Erfurth is a highly ornamented building, but, though possessing beautiful details in parts, yet it shows the slenderness of construction which is so frequent a fault in German Gothic buildings. The church of St. Severus in the same town resembles that at Muhlhausen, but possesses so characteristic a group

of three spires[1] over what we would consider the transept—or just in front of the apse—that it is illustrated (woodcut No. 498). It certainly looks like a direct lineal descendant from the old Roman Basilican apse grown into Gothic tallness. Though common in Germany, placed either here or at the west front, I do not know of any single example of such an arrangement either in France or England.



498. St. Severus Church at Erfurth. From Puttrich, 'Denkmäler.'

To the same class of square churches with slightly projecting chancels belongs the Frauen Kirche at Nuremberg, one of the most ornate of its kind, and possessing also in its triangularly formed porch another peculiarity found only in Germany. The principal entrances to the cathedrals of Ratisbon and Erfurth are of this description, the latter being the richest and boldest porch of the kind.

One of the best known examples of the daring degree of attenuation to which the Germans delighted to carry their works is the choir (woodcut No. 462), added in 1353 and 1413 to the old circular church of Charlemagne at Aix-la-Chapelle. As we now see it, the effect is certainly unpleasing; but if these tall windows were filled with painted glass, and the walls and

[1] The façade designed for the cathedral at Louvain (mentioned at p. 545) was identical with this group of spires in arrangement, though on a much larger scale, and infinitely richer in ornament.

vaults coloured also, the effect would be widely different. Perhaps it might then be even called beautiful: but with scarcely a single exception all those churches are now deprived of this most indispensable part of their architecture, and, instead of being the principal part of the design, the windows are now only long slits in the masonry, giving an appearance of weakness without adding to the beauty or richness of the ornament.

The same remarks apply to the Nicholai Kirche at Zerbst, and the Petri Kirche at Gorlitz, both splendid specimens of this late exaggerated class of German art. By colour they might be restored, but as seen now in the full glare of the cold daylight they want almost every requisite of true art, and neither their size nor their constructive skill suffices to redeem them from the reproach.

CHAPTER VI.

CONTENTS.

Circular Churches — Church Furniture — Civil Architecture.

Circular Churches.

In adopting the pointed style, the Germans almost wholly abandoned their old favourite circular form, the Liebfrauen Church at Treves (woodcut 433), being almost the only really important example of a church in this style approaching to a rotunda. Chapter-houses are as rare in Germany as in France, and those that are found are not generally circular in either country. There is a baptistery attached to the cathedral at Meissen, and one or two other insignificant examples elsewhere, but the most pleasing object of this class is the Anna Chapel, attached to the principal church at Heiligenstadt. It is said that it always was dedicated to the sainted mother of the Virgin, but it would require more than tradition to prove that it was not originally designed as a baptistery or a tomb-house. Be this as it may, it is one of the most pleasing specimens of its class anywhere to be found, and so elegant as to make us regret the rarity of such structures.



499. Anna Chapel at Heiligenstadt. From Puttrich, Denkmäler.

Church Furniture.

The churches of Germany are not generally rich in architectural furniture. Few rood-lofts are found spanning from pillar to pillar of the choir like that at the Madelaine of Troyes (woodcut No. 408);

and though some of the screens that separate the choirs of the churches are rich, they are seldom of good design. The two at Naumberg are perhaps as good as any of their class in Germany. Generally they were used as the *lectorium*—virtually the pulpit—of the churches. In most instances, however, the detached pulpit in the nave was substituted for these, and there are numerous examples of richly-carved pulpits, but none of beautiful design. In most instances they are overloaded with ornament, and many of them disfigured with quirks and quibbles, and all the vagaries of later German art.

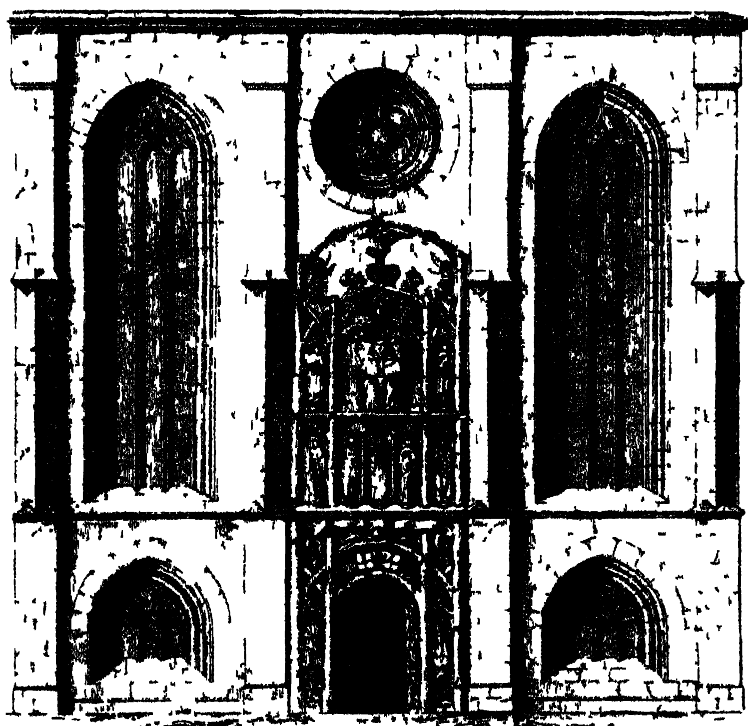
The fonts are seldom good or deserving of attention, and the original altars have almost all been removed, either from having fallen to decay, or to make way for some more favourite arrangement of modern times.

500. Sacraments-Hauslein in St. Lawrence, Nuremberg. From Chapuy.

The "Sacraments Hauslein" (the receptacle for the sacred elements of the Communion) is a peculiar article of furniture frequently found in German churches, and in some of those of Belgium, though very rare in France and unknown in England, but on which the German artists seem to have lavished more pains than on almost any other article of church decoration. Those in St Lawrence's Church at Nuremberg and at Ulm are perhaps the most extraordinary pieces of elaborate architecture ever executed in stone, and have always been looked on by the Germans as chefs-d'œuvre of art. Had they been able, they would have delighted in introducing the same extravagances into external art; fortunately the elements forced them to confine them to their interiors. Nothing, however, can show more clearly what was the tendency of their art, and to what they aspired, than those singular erections, which, notwithstanding their absurdity, considering their materials, must excite our wonder, like the concentric balls of the Chinese. To some extent also they claim our admiration for the lightness and the elegance of their structure. Simplicity is not the characteristic of the German mind. A difficulty conquered is what it glories in, and patient toil is not a means only, but an end, and its expression often excites in Germany more admiration than either loftier or purer art.

It can scarcely be doubted but that much of the extravagance which we find in later German architecture arose from the reaction of

the glass-painters on the builders. When first painted glass was extensively introduced, the figures were grouped or separated by architectural details, such as niches or canopies, copied literally from the stone ornaments of the building itself. Before long, however, the painter, in Germany at least, spurned at being tied down to copy such mechanical and constructive exigencies; he attenuated his columns, bent and twisted his pinnacles, drew out his canopies, and soon invented for himself an architecture bearing the same relation to the stone Gothic around him that the architecture shown on the paintings of Pompeii bears to the temples and buildings from which it is derived. In Germany, painters and builders alike were striving after lightness, but in this the painter was enabled by his material easily to outstrip the mason. The essentially stone character of architecture was soon lost sight of. With the painter the finials, the crockets, and the foliage of the capitals again became copies of leaves instead of the conventional representations of nature which they are and must be in all true art. Like Sir James Hall in modern times, the speculative mind in Germany was not long, when advanced thus far, in suggesting a vegetable theory for the whole art. All these steps are easily to be traced in the sequence of German painted glass still pre-



601 Doorway of Church at Chemnitz

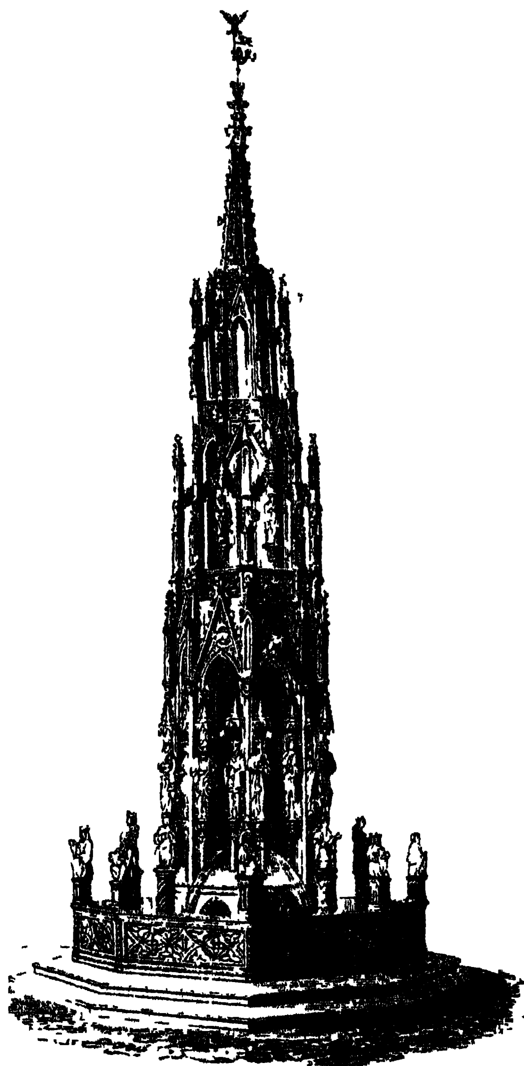
served to us. The more extravagant and intricate the design, the more it was admired by the Germans. It was therefore only natural that the masons should strive after the same standard, and should try to realise in stone the ideas which the painters had so successfully started on the plain surface of the glass. The difficulty of the task was an incentive. Almost all the absurdities of the later styles may be traced more or less to this source, and were it worth while, or were this the place, it would be easy to trace the gradual decay of true art from this cause. One example, taken from a church at Chemnitz (woodcut No. 501), must suffice, where what was usual, perhaps admissible, in glass, is represented in stone as literally as is conceivable. When art came to this, its revival was impossible among a people with whom such absurdities could be admired, as their frequency proves to have been the case. What a fall does all this show in that people who invented the old Round-Gothic style of the Rhenish and Lombard churches, which still excite our admiration as much from the simple majesty of their details as from the imposing grandeur of the whole!

CIVIL ARCHITECTURE.

If the Germans failed in adapting the pointed style of architecture to the simple forms and purposes of ecclesiastical buildings, they were still less likely to be successful when dealing with the more complicated arrangements of civil buildings. It is seldom difficult to impart a certain amount of architectural character and magnificence to a single hall, especially when the dimensions are considerable, the materials good, and a certain amount of decoration admitted; but in grouping together as a whole a number of small apartments, to be applied to various uses, it requires great judgment to ensure that every part shall express its own purpose, and good taste to prevent the whole degenerating into a mere collection of disjointed fragments. Those qualities the Germans of that age did not possess. Moreover, there seems to have been singularly little demand for civil edifices in the 13th and 14th centuries. It is probable that the free cities were not organised to the same extent as in Belgium, or had not the same amount of manufacturing industry that gave rise to the erection of the great halls in that country, for with the exception of the Kauf Haus at Mayence, no example has come down to our days that can be said to be remarkable for architectural design. Even this no longer exists, having been pulled down in 1812. It was but a small building, 135 ft. in length by 92 in width at one end, and 75 at the other. It was built in the best time of German pointed architecture, and was a pleasing specimen of its class. At Cologne there is a sort of Guildhall, the Gurzenich, and a tower-like fragment of a town-hall, both built in the best age of architecture; and in some of the other Rhenish towns there are frag-

ments of art more or less beautiful according to the age of their details, but none that will bear comparison with the Belgian edifices of the same class.

Some of the castles in which the feudal aristocracy of the day resided are certainly fine and picturesque buildings, but they are seldom remarkable for architectural beauty either of design or detail. The same remarks apply to the domestic residences. Many of the old high gabled houses in the streets are most elaborately ornamented, and produce picturesque combinations in themselves and with one another: but as works of art few have any claim to notice, and neither in form nor detail are they worthy of admiration.

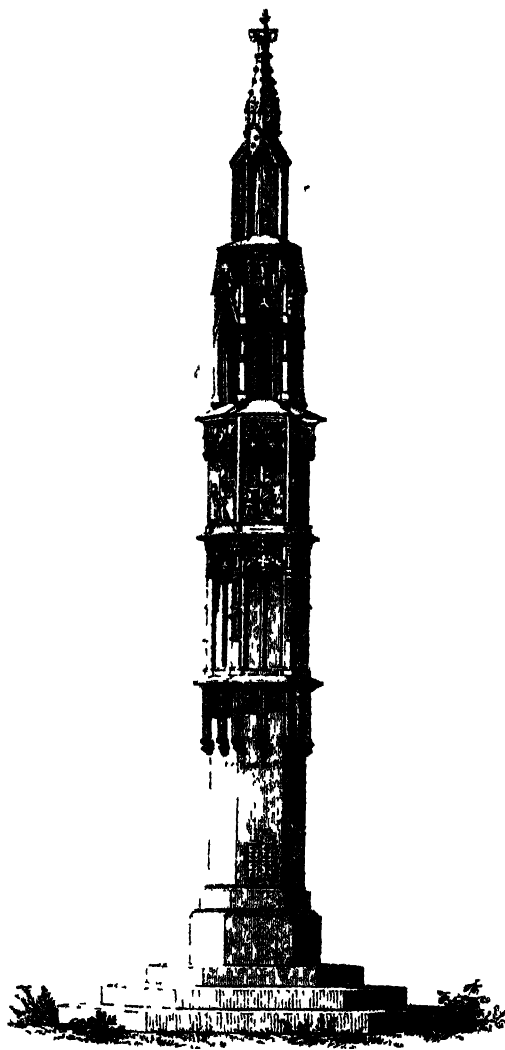


Schone Brunnen at Nuremberg. From Chapuy.

Among more miscellaneous monuments may be named the weigh tower at Andernach, with its immense crane, showing how any object may be made architectural if designed with taste. The Schöne Brunnen, or "Beautiful Fountains," in the market-place at Nuremberg is one of the most unexceptionable pieces of German design in existence. It much resembles the contemporary crosses erected by our Edward I. to the memory of his beloved queen Eleanor, but it is larger and taller, the sculpture better, and better

disposed, and the whole design perhaps unrivalled among monuments of its class. The lightness of the upper part and the breadth of the basin at its base give an appearance of stability which greatly contributes to its effect.

Scarcely less elegant than this is the cross or "Todtenleuchter," Lanterne des Morts," in the cemetery of Kloster Neuberg, near Vienna. Its height is about 30 ft.; the date engraved upon it is 1381. There is a small door at a height of about 5 ft. from the gound, and near the summit a chamber with six glazed windows, in which the light was exhibited.

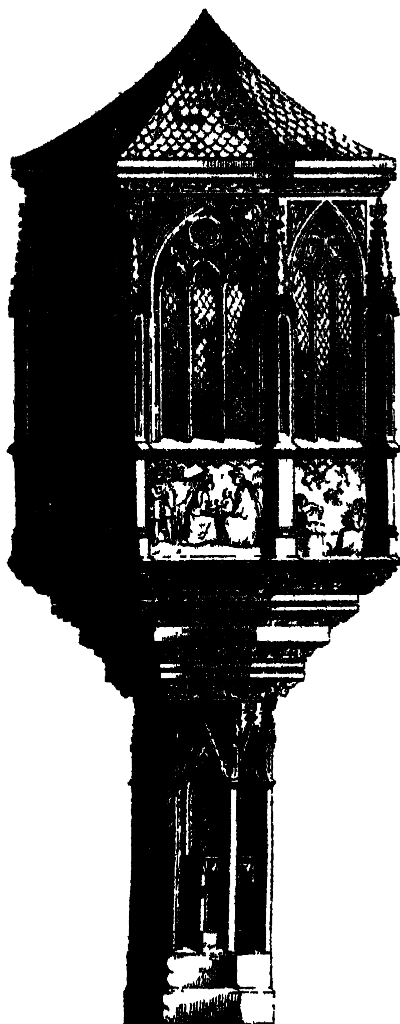


503 Todtenleuchter at Kloster Neuberg

In France, some 10 or 12 of these Lanterns have recently been brought to light and described. In Germany about as many, besides numberless little niches in which lamps were placed in churches, showing a prevalence in Christian countries of a custom which now only prevails among Mahometans, of placing lights at night in the tombs of saints, or of relatives, so long as their memory is preserved. Perhaps, however, the greatest point of interest attached to their investigation arises from the light these foreign examples may be expected to throw on the origin of the Round Towers in Ireland. Their form is not unlike this at Kloster Neuberg. Their destination seems the same. Though the dimensions of the Irish towers

is greatly in excess of any similar monuments found on the continent of Europe.[1]

In the town of Nuremberg are several houses presenting very elegant specimens of art in their details, though few that now at least



504 Bay Window from St Sebald, Nuremberg

afford examples of complete designs worthy of attention. The two parsonages or residences attached to the churches of St. Sebald and St. Laurence are among the best. The bay window (woodcut No. 504)

[1] Mr. Hodder Westrop was, I believe, the first to suggest this identity of the Round Towers with these "Fanals," or Lanternes des Morts. It seems to be the most plausible suggestion yet made.

from the façade of the former is as pleasing a feature as is to be found of its class in any part of Germany.

A more characteristic specimen, however, is to be seen at Bruck on the Mur, in Styria, where there still exists a large house, the front of which is ornamented with a verandah in several bays, one of which is represented in the annexed woodcut No. 505. It is in two storeys, the upper containing twice the number of openings of the lower. The whole design is singularly elegant, but betrays the lateness of the date (1505) in every detail, and, more than this, exhibits those peculiarly German features which are so characteristic of the later Gothic in that country. In the lower storey, for instance, the ogee arch instead of being filled up with a decorative piece of construction, is made circular by a plain piece of stone which completes the construction but violates the decoration. Above this we have a balustrade in stone, imitating wood in a manner the Germans were so fond of, but which is certainly wrong in principle as it is in taste, but, notwithstanding these defects, we cannot but regret that more examples of the same class have not come down to our time.


Façade of House at Bruck-am-Mur.

It is true that in all countries the specimens of domestic art are, from obvious causes, more liable to alteration and destruction than works of a more monumental class. Making every allowance for this, Germany still seems more deficient than its neighbouring countries in domestic architecture in the pointed style, and one can hardly escape the conviction that this form was never thoroughly adopted by the people of this country, and that it therefore, never having had much hold on their feelings or taste, died out early, leaving only some wonderful specimens of masonic skill in the more monumental buildings, but very few evidences of true art or of sound knowledge of the true principles of architectural effect.

CHAPTER VII.

NORTHERN GERMANY.

BRICK ARCHITECTURE.

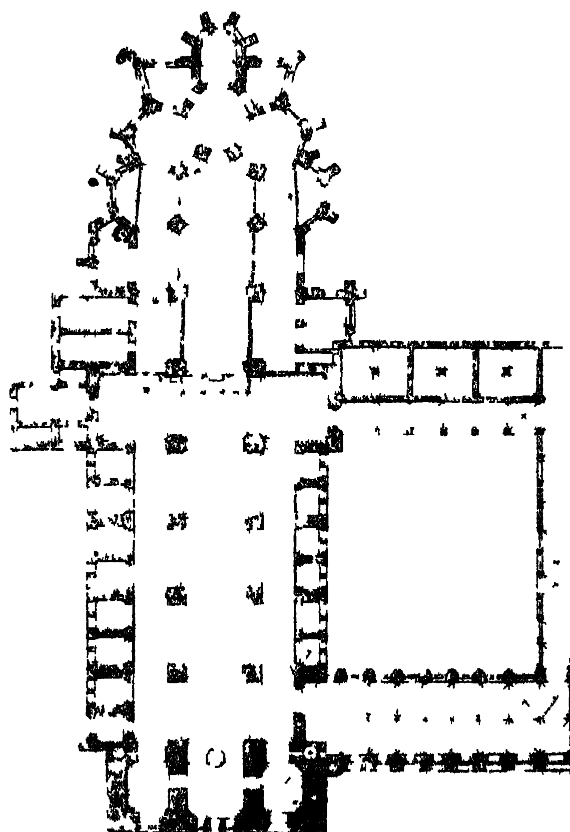
CONTENTS

ALONG the whole of the southern shores of the Baltic extends a vast series of sandy plains, now composing the greater part of the kingdom of Prussia, with Hanover and Mecklenburg and the duchies of Brandenburg and Brunswick. This district was to a considerable extent cultivated during the middle ages, and contained several cities of great commercial and political importance, which still retain many of their ecclesiastical and civil buildings.

These plains are almost wholly destitute of any stone suitable for building purposes, and brick has alone been employed in the erection not only of their houses but of their churches and most monumental buildings. This circumstance has induced such a variation in the character of the architecture as to justify the north of Germany being treated as a *separate* province. The differences which are apparent may also be owing to some extent to ethnographic differences of race, though it is not easy to say how much may be owing to this cause. In early Christian times the whole province was inhabited by the Wends, a race of Sclavonic stock; they have been superseded by the Teutonic races and their language has disappeared, but their blood must still remain, and a knowledge of this fact would at once account to an ethnologist for the absence of art. A Teutonic race, based on a Celtic substratum, would have wrought beauty out of bricks, and the constructive difficulties would not have prevented the development of the art. But a Teutonic formation overlying a Sclavonic base is about as unfortunate a combination for architectural development as can well be conceived. This, added to the deficiency of appropiate building materials, will more than suffice to account for the phenomena we meet with on the southern shores of the Baltic.

It is true that in the hands of a refined and art-loving people like the inhabitants of the north of Italy, brick architecture may be made to

possess a considerable amount of beauty. Burnt clay may be moulded into shapes as elegant, and as artistic, as can be carved in stone; and the various colours which it is easy to impart to bricks may be used to form mosaics of the most beautiful patterns: but to carry out all this with success requires a genuine love of art, and an energy in the prosecution of it, which will not easily be satisfied. Without this the facilities of brick architecture are such that it can be executed by the commonest workmen, and is best done in the least artistic forms. While this is the case, it requires a very strong feeling for art to induce any one to bestow thought where it is not needed, and to interrupt construction to seek for forms of beauty. In brick architecture, the best walls are those with the fewest breaks and projections, so that if relief and shadow are to be obtained, they must be added for their own sake, and more than this, walls may be built so thin that they must always appear weak as compared with stone walls, and depth of relief becomes almost impossible.

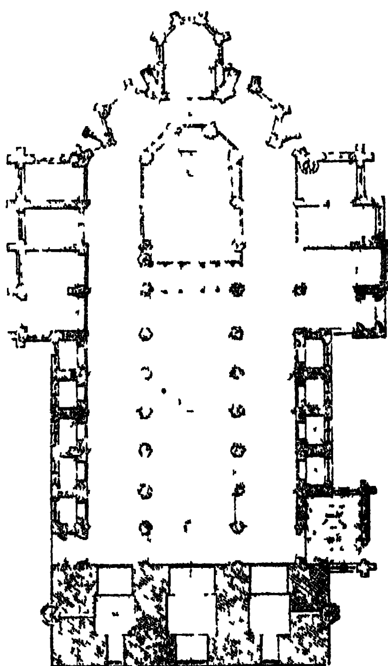


Plan of Cathedral, Lubeck. From Schlösser and Tischbein, 'Denkmale Lubeck.' Scale 100 ft. to 1 in.

Another defect is, that a brick building almost inevitably suggests a plaster finishing internally; and every one knows how easy it is to repeat by casting the same ornaments over and over again, and to apply such ornaments anywhere and in any way without the least reference to construction or propriety.

All these temptations may of course be avoided. They were so at Granada by the Saracens, who loved art for its own sake. They were to a considerable extent avoided in the valley of the Po, though by a people far less essentially art loving than the Moors. But it will easily be supposed that this taste and perception of beauty exerted very little influence in the valley of the Elbe. There the public buildings were raised as cheaply as the necessities of construction would allow, and ornaments were applied only to the extent absolutely requisite to save them from meanness. Thus the churches represent in size the wealth and population of the cities, and were built in the style of Gothic architecture which prevailed at the time of their erection, but it is in vain to look in them for any of the beauties of the stone Gothic buildings of the same period.

The principal group of churches in the district is found at Lubeck, which was perhaps, in the middle ages, the wealthiest town on the shores of the Baltic. The largest of these is the Dom Kirche or Cathedral (woodcut No. 506), a building 427 ft. long over all. The nave is 120 ft. wide externally. The vaults of the three aisles spring from the same height, the central one being 70 ft high, those of the side aisles a little less. This, with the wide spacing of the piers, gives a poor and bare look to the interior. The choir is better, showing a certain amount of variety about the chevet, but even this is leaner than in any stone building, and displays all the poverty on which we have remarked.

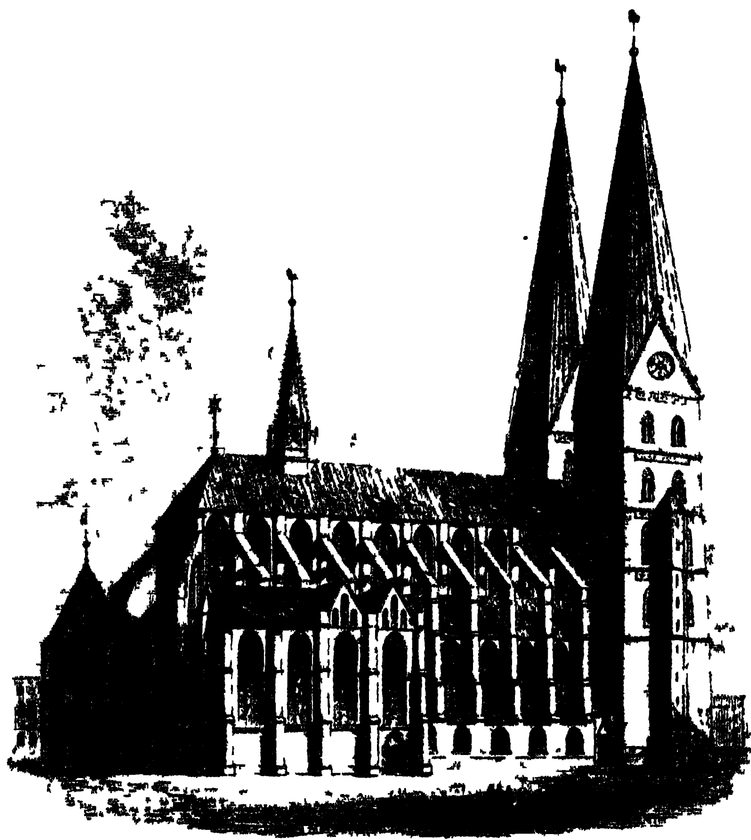


507 Plan of Church of St Mary, Lubeck. Scale 100 ft to 1 in.

The Maria Kirche is a more favourable specimen of its class, though by no means so large. It is of a somewhat earlier age, and is built more in accordance with the principles of Gothic design. The

central aisle is 130 ft. high; the side-aisles only half as much. This allows space for a very splendid clerestory, which, if filled with stained glass, would redeem the flatness of the mouldings and the general poverty of the architecture of the interior.

The church of St. Catherine is smaller than either of those, though of about the same age as that last mentioned, and of as good a design. It possesses the somewhat curious peculiarity of having a double choir one above the other like that of St Gereon at Cologne (woodcut No. 478), but more complete and extensive than in that example. The whole of the lower choir is vaulted over and a second, at a height of 20 ft., forms an upper choir over its whole extent.



View of Church of St Mary Lubeck From Schlosser and Fischbein.

There are several smaller churches in Lubeck, none of which show any peculiarities not found in the larger. The same faults which characterise the interior of these churches are also found in the exterior. The Maria Kirche (woodcut No. 508) is the best of them in this respect, but though its outline is good, it is far from being a pleasing specimen

of architecture. Its two western towers are of the form typical in Lubeck. They are just 400 English ft. in height, and with these dimensions ought to be imposing objects, but they certainly are not so, being in fact as bad specimens as could be of Gothic towers.

As usual in Germany, there is no door at the west end of any of these churches, and the principal entrances are in all cases lateral; one of those attached to the cathedral is an elaborate and beautiful piece of stone architecture, but it is the only one apparently that is at all remarkable.

Some of the rood-screens are covered with carving, and the tabernacles, or receptacles for the holy elements, are, as in most parts of Germany, elaborately ornamented. They are nearly of the same age and of the same style as those at Nuremberg, one of which is represented in woodcut No. 500.

Dantzic possesses several large churches very similar, both in style and arrangement, to those of Lubeck. The principal of these is the cathedral, or Marien Kirche, commenced in its present form in 1343, and completed in the year 1502. It is 316 feet long and 105 in width, with a transept extending to 206 feet. The whole area of the church is about 42,000 ft., so that though not among the largest, it may still be considered as a first-class church: and, being of a good age, it is as effective in design as any of the brick churches of the province. It has one tower at the west end 230 feet in height.

The church of St. Catherine is in part older than the cathedral, having been founded in 1185, though it was to a great extent rebuilt at a subsequent period. Its dimensions as it now stands are 210 ft. long, and 120 ft. wide over all. Neither it nor any of the other churches of the town seem to have any remarkable feature of design or construction worthy of being alluded to.

The town of Luneburg retains not only its public buildings, but its street architecture, nearly as left from the middle ages; and its quaint gables and strange towers and spires give it a character that is picturesque and interesting, but cannot be said to be beautiful. Nor is there anything in its architecture that is worthy either of admiration or imitation.



509. Tower in the Kœblinger Strasse, Hanover.

The form of church tower found there, and indeed generally in the district, is a modification of that at Paderborn (woodcut No. 444), and is well exemplified by that in the Kœblinger Strasse at Hanover (woodcut No. 509). It is an honest and purpose-like piece of architecture, but certainly without any pretensions to beauty of design.

Further east in Ermenland, as Eastern Prussia used to be called; there are many brick buildings, which from their picturesqueness and the appropriateness of their form half disarm the critic. Among these, for instance, such a church as that of Frauenburg (woodcut No. 510), with its light graceful spires and its brick tracery over its gables, is an object, if not of grandeur, at least of considerable beauty in itself, and in this instance is grouped with so many others as to form a more picturesque combination than is usually to be met with on the shores of the Baltic. The church itself is 300 ft. long by 80 in width, and has three aisles in the nave, of equal height but unequal width. Its worst defect is the plainness and bulk of the octagonal piers which support the vault



510 Church at Frauenburg From Quast, 'Denkmäle der Baukunst in Ermenland.'

The next illustration of the church at Santoppen (woodcut No. 511) is of a type infinitely more common in Ermenland. In Quasts's work[1] are some dozen churches varying only slightly from this in design, but in many the western tower is more like a many-storeyed warehouse

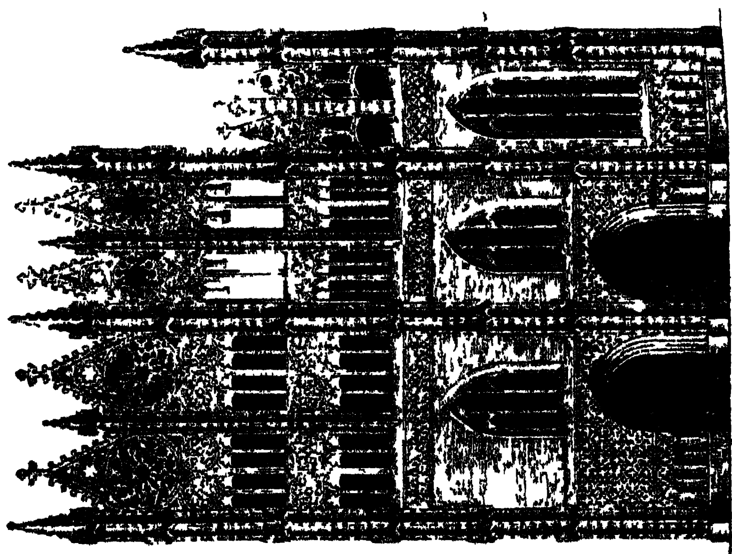
[1] 'Denkmäler der Baukunst in Ermenland.' Berlin.

than a building designed either for ornament or any church-like use. They all, however, possess some character and charm from their novelty, being very unlike anything found elsewhere.

The Marien Church at Brandenburg (woodcut No. 512) exhibits this



511. View of Church at Santoppen. From Quast.



512. Façade of Marien Kirche, Brandenburg. From an Engraving.

style carried to an excess which renders it almost bizarre. The lower part is unobjectionable. The ornament around the doors and under the windows being appropriate and well placed, but the windows themselves are too plain even in this style, and above this the ornament is neither

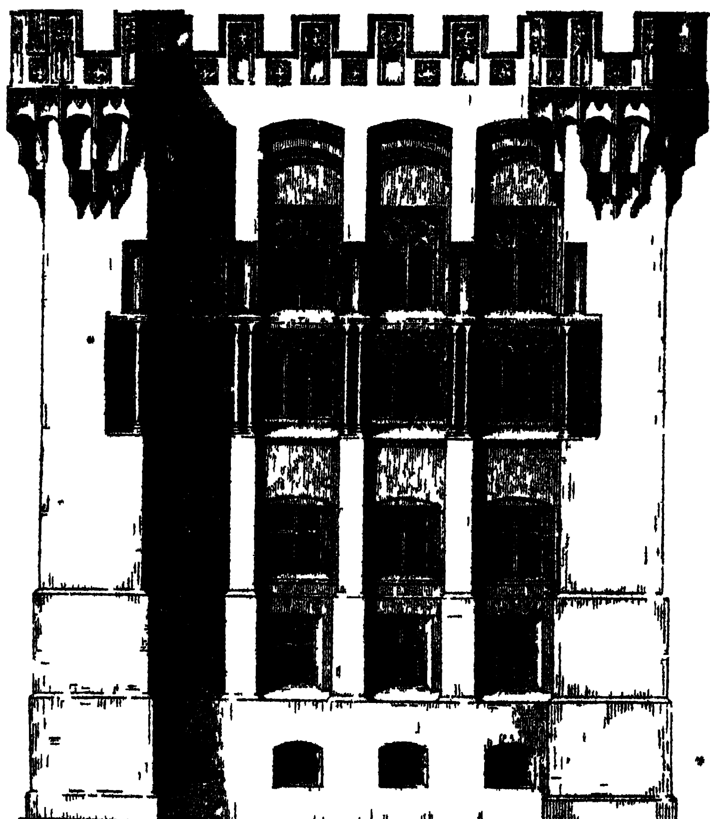
constructive nor elegant; the building might be either a dwelling or a civil building, or anything else as well as a church, and it is difficult to find on what principle the design is varied or arranged. In true Art the motive is apparent at a glance, and this should always be the case.

At Hamburg, fires, and the improvements consequent on modern activity and prosperity, have nearly obliterated all the more important buildings which at one time adorned that city.

At Konigsberg, at the opposite extremity of the district, there seems to be little that is remarkable, except a cathedral, possessing an enormous façade of brickwork, adorned with blank arches, but without the smallest pretensions to beauty, either internally or externally.

Civil Buildings.

The most remarkable among the civil buildings of the province is the castle at Marienburg, which was for nearly a century and a half the residence of the masters of the once powerful knights of the



513 Façade of the Knight-hall in the Castle of Marienburg. From Rosengarten.

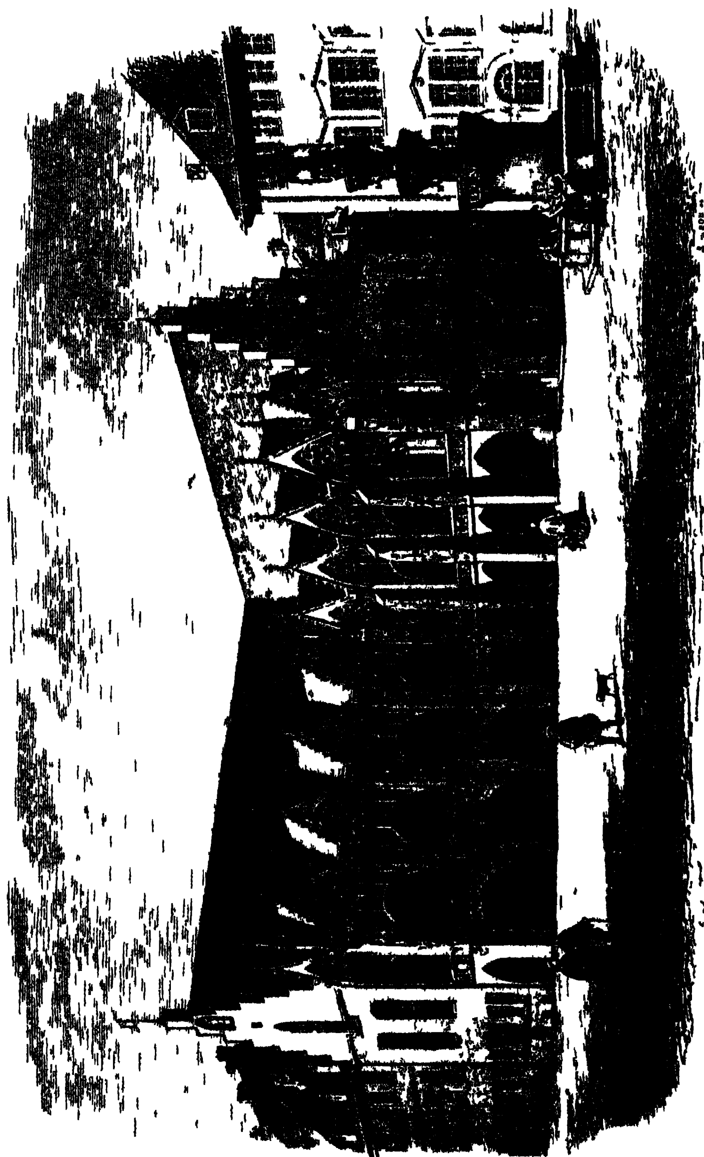
Teutonic order. The Alte Schloss was built in 1276, the middle castle in 1309; so that it belongs to the best age of Gothic art; and, being half palace, half castle, ought to possess both dignity and grandeur. It betrays, however, in every part the faults of brick architecture in this province, and though curious is certainly not beautiful. All the windows are square headed, though filled with tracery, and the vaultings of the principal apartments are without grace in themselves, and do not fit the lines of the openings; even the boldly projecting machicolations, which in stone architecture give generally such dignity to castellated buildings, here fail in producing that effect, from the tenuity of the parts and the weakness of their apparent supports.

The town-hall at Lubeck is imposing from its size, and singular from the attempt to gain height and grandeur by carrying up the main wall of the building high above the roof, and where no utilitarian purpose can be suggested for it. Indeed there are few towns in the province that do not possess some large civic buildings, but in all instances these are less artistic than the churches themselves; and, though imposing from their mass and interesting from their age, they are hardly worthy of notice as examples of architectural art.

The town-hall at Brunswick (woodcut No. 514) is one of the most picturesque and characteristic of these buildings, and perhaps also the most artistic. It is difficult, however, to reconcile our feelings to the light arch supporting the tracery of the upper part of the upper gallery. If the four mullions had been brought down, they would not have impeded either light or air to an appreciable extent, and if more space had been wanted for addressing people in the platz, the omission of the central mullion would have sufficed. Notwithstanding this it is a picturesque and appropriate building, more so than any other known out of the Flandrian province. The fountain, too, on the right hand of the cut, is a pleasing specimen of its class; a little heavier at the base than quite comports with the style, though that is a fault quite on the right side.

As the examples just enumerated are types of the best buildings which exist in the province they are sufficient to characterize the style, and at the same time unfortunately to show how little real beauty it has as a form of architecture. As many of the towns were populous and wealthy during the middle ages, they of course had large and commodious churches; but, as happened in Holland, they have as little artistic merit as it is possible that a church should have which is built in imitation of a French pointed-arched cathedral, and with the dimensions which these churches possess.

The same is true of their civic buildings: some are large and richly ornamented, but are all deficient in grace, and in that exquisite balance between construction and ornament—usefulness combined with beauty—which are invariably shown in the buildings further south.



514 Town-hall at Brunswick. From Rosengarten.

BOOK V.

CHAPTER I.

SCANDINAVIA.

CONTENTS.

Sweden — Norway — Denmark — Gothland — Round Churches — Wooden Churches.

No one who has listened to all that has been said and written in Germany for the last few years about "Schleswig-Holstein Stamm verwandt," can very well doubt that when he passes the Eyder going northward, he will enter on a new architectural province. He must, however, be singularly deficient in ethnographic knowledge if he expects to find anything either original or beautiful in a country inhabited by races of such purely Aryan stock. If there is any Finnish or Lap blood in the veins of the Swedes or Danes it must have dried up very early, for no trace of its effect can be detected in any of their architectural utterances; unless, indeed, we should ascribe to it that peculiar fondness for circular forms which is so characteristic of their early churches, and which may have been derived from the circular mounds and stone circles which were in use in Sweden till the end of the 10th century. The country in fact was only converted to Christianity in the reign of Olaf—Skol Konung—1001 to 1026; and then, and for a long time afterwards, was too poor and too thinly inhabited to require any architectural buildings, and when these came to be erected the dominant race was one that never showed any real sympathy for the art in any part of the world.

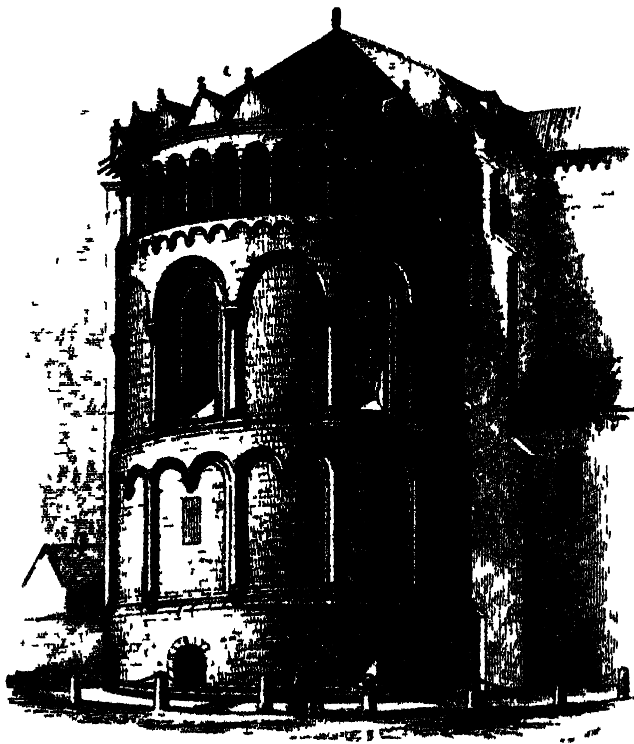
Sweden.

The largest and most important monument in the province is the Cathedral of Upsala, though it can hardly be quoted as an example of Scandinavian art; for when the Swedes, in the end of the 13th cen-

tury (1278), determined on the erection of a cathedral worthy of their country, they employed a Frenchman of the name of Etienne Bonneuil, to furnish them with a design, and to superintend the erection. This he did till his death, though how far the work was advanced at that time there is now no means of knowing. The church is only 330 ft. in extreme length by 145 in width, with two western towers and the principal portal between them. The whole is of brick, except the doorways and some smaller ornamental details. The building was in progress during 200 years, and after Bonneuil's death the French principles of detail were departed from; and, in addition to this, the upper parts of the western towers were rebuilt during the last century, and other disfigurements have taken place, so that the building would hardly be deemed worthy of a visit further south, and is only remarkable here from the meanness of its rivals.

The church at Lidkoping (1260-1500) ranks next in importance to that of Upsala. It has, however, no western towers or other ornaments externally, and internally is arranged without that knowledge of architectural effect which alone could render it interesting.

The cathedral at Lund is both older and better than either of these. It was commenced apparently about the year 1080, and consi-



515. Apse of Lund Cathedral. From Marryat, 'One Year in Sweden.'

derably advanced in 1150, and the erection of the apse must be placed between these two dates. It is the only unaltered part of the church, and is a very beautiful specimen of the German style of that date. The little gables over the apsidal gallery seem part of the original design, and are the only examples of the class we possess. With these the whole makes up a very pleasing composition.

There are other churches in Sweden, at Westeroas, Stregnas and Abo, all large—viz., about 300 ft. east and west by 100 to 120 in width,—and founded in the 12th and 13th centuries, but, like the nave at Lund, they have been altered and improved so frequently during the last 600 years, that very little remains of the original design whatever that may have been, in their present state they are hardly worthy of mention.

Perhaps the most pleasing objects in Sweden are the country churches, with their tall wooden spires and detached belfries. If these do not possess much architectural beauty they at all events are real purpose like erections, expressing what they are intended for in the simplest manner, and with their accompaniments always making up a pleasing group



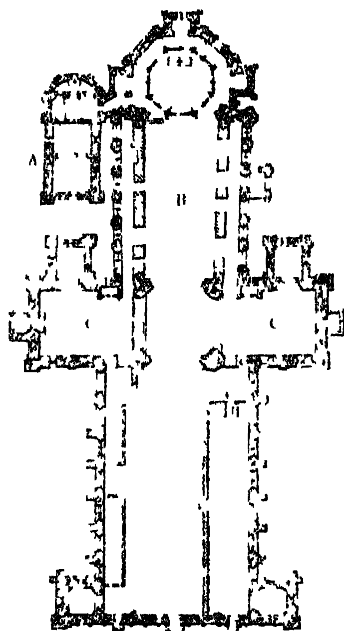
516 Old Country Church and Belfry. From Marryat's 'One Year in Sweden.'

Norway.

The Norwegians are more fortunate than either the Danes or Swedes in possessing at Trondhjem a national cathedral of great beauty and interest, even in its present ruined state

Its history is easily made out from a comparison of local traditions with the style of the building itself. Between the years 1016 and 1030 St. Olaf built a church on the spot where now stands St Clement's

church, the detached building on the north, shown in plan at A (woodcut No. 517). He was buried a little to the south of his own church, where the high altar of the cathedral is now situated. Between the years 1036 and 1047, Magnus the Good raised a small wooden chapel over St. Olaf's grave, and soon afterwards Harald Haardraade built a stone church, dedicated to Our Lady, immediately to the westward of this, at B. This group of three churches stood in this state during the troubled period that ensued. With the return of peace in 1160, Archbishop Eysteen commenced the great transept C C to the westward of the Lady Chapel, and probably completed it about the year 1183. At that time either he or his successor rebuilt the church of St. Clement as we now find it. During the next sixty or seventy years the whole of the eastern part of the cathedral was rebuilt, the tomb-house or shrine being joined on to the apse of the Lady Church, as was explained in speaking of the origin of the French chevet (p. 426). In 1248 Archbishop Sigurd commenced the nave, but whether it was ever completed or not is by no means certain. In 1328 the church was damaged by fire, and it must have been after this accident that the internal range of columns in the circular part was rebuilt in the style of our earlier Edwards.



Plan of Cathedral of Trondhjem. Scale 100 ft. to 1 in.

Thus completed, the church was one of the largest in Scandinavia, being 350 ft. long internally; the choir 64, and the nave 84 ft. wide. But its great merit lies more in its details than in its dimensions. Nothing can exceed the richness with which the billet moulding is used in the great transept. Its employment here is so vigorous and so artistic, that it might almost be suspected that this was its native place, and that it was derived from some wooden architecture usual in this country before being translated into stone.

The greatest glory of the place is the tomb-house at the east end. Externally this presents a bold style of architecture resembling the early English.[1] Internally it is a dome 30 ft. in diameter, supported on

[1] Both in design and purpose, this circular part of Trondhjem Cathedral is an exact counterpart of Becket's Crown at Canterbury. That was erected as a Baptistery and burial-place for the archbishops, and seems to have been afterwards incorporated in the cathedral, *more Francorum*.

a range of columns disposed octagonally, and all the details correspond with those of the best period of decorated architecture.

As will be observed from the plan (woodcut No. 517), the architect had considerable difficulty with all these rebuildings to bring the old and new parts to fit well together, and in consequence the walls are seldom straight or parallel with one another, and, what is most unusual, the choir expands towards the east. This is not, however, carried to such an extent as to be a blemish, and with a double range of columns down the centre would hardly be perceived, or if perceived, the effect would be rather pleasing than otherwise.



Fig. [illegible] View of Cathedral of Trondhjem.

Had the western front been completed, it would have been one of the most beautiful anywhere to be found, not only from its extent (120 ft.), but also from the richness and beauty of its details, belonging to the very best period of art about the year 1300. In design and detail it resembles very much the beautiful façade of Wells Cathedral. Like the rest of the cathedral, it is now in a very ruinous state, and, as will be seen by the view (woodcut No. 518), the whole is so deformed externally by modern additions, that its original effect can only be judged of by a careful examination of its details.

Denmark.

The most interesting church in Denmark is that at Roeskilde, in Jutland, which is now the burial place of the kings, and the principal

cathedral of the country. The original church was founded in the year 1081, and was then apparently circular, and of the same dimensions as the east end of the present edifice. This latter was commenced after the middle of the 12th century, and does not seem to have been completed as we now see it till towards the end of the 13th. The east end is probably one half of the old round church rebuilt, the required enlargement of space having been obtained by a considerable extension of length towards the west.



519. Plan of Church at Roeskilde. From S. Friis. Scale 100 ft. to 1 in.

Its general dimensions, as shown in the plan (woodcut No. 519) are 270 ft. long by 80 in breadth internally. The whole area is only about 24,000 ft., and consequently not more than half that of most English cathedrals.

From the elevation (woodcut No. 520), it appears simple and elegant in its design, and contains the germ of much that is found afterwards in the churches of the neighbourhood, especially in the range of small gables along the side of the aisles, marking externally each bay of the nave.[1] This arrangement is almost universal in the north of Germany, but seldom, if ever, found in France or England.

At Aarhuus is a somewhat similar church, commenced about the year 1200, but rather larger, being 300 ft. in length by 80 in breadth. In its present state however, it is



520. Elevation of Roeskilde Domkirche. From Steen Friis. Scale 100 ft. to 1 in.

[1] The plan and elevation are taken from a description of the church by Steen Friis, published at Copenhagen, 1851. In both cuts the modern additions are omitted.

only a very ugly and uninteresting brick building in an indifferent state of repair. The Frue Kirche, in the same town, is a far more pleasing specimen of art, and is a fine example of the style prevalent on the southern shores of the Baltic, from which province the design is evidently borrowed. Like every specimen of honest art, it is pleasing; but neither its form nor arrangement will bear any very close analysis



Frue Kirche Aarhuus From Marryatt's 'Jutland and the Danish Isles'

The cathedral at Ribe, on the northern limits of Schleswig, has an apse something like that of Lund Cathedral, but of slightly more modern date and wanting the gallery under the roof. Still it is only a bad copy in brick of what is so frequently found on the Rhine in stone.

Sometimes, however, we do get a touch of originality even in this province, as in the church of Kallundborg (woodcut No. 521), built in the form of a cross, with one square tower in the centre, and four octagonal towers, one at the end of each of the arms of the cross transept. Was it a caprice? or is it borrowed from any other form? Except in the Kremlin at Moscow, I do not know where to look for any such type, and even then the likeness is very remote. A larger octagon in the centre, with four square towers around it must have been a happier arrangement, and, if properly subordinated, have formed a picturesque group. In this example the church itself is lost sight of, and the towers are not remarkable for beauty.



Church of Kalundborg. From Marryat's 'Jutland and the Danish Isles.'

GOTHLAND.

The island of Gothland, though politically attached to Sweden, deserves to be treated as a little province of its own in an architectural view, inasmuch as it possesses a group of churches within its limits as interesting as any in the north of Europe, and peculiar, if not exceptional in design. Their existence is owing to the fact, that during the 11th and 12th centuries a great portion of the Eastern trade which had previously been carried on through Egypt or Constantinople was diverted to a northern line of communication, owing principally to the disturbed state of the East, which preceded and in fact gave rise to the Crusades. At this time a very considerable trade passed through Russia, and

centered in Novogorod. From that place it passed down the Baltic to Gothland, which was chosen apparently for the security of its island position, and its capital, Wisby, became the great emporium of the West. After two centuries of prosperity, it was gradually superseded by the rise of the Hanseatic towns on the mainland, and a final blow was struck by Valdemar of Denmark, who took the town by storm in 1361. Since then it has gradually become depopulated. The consequence has been that, no additional accommodation being required, the old churches have remained unaltered, still they have not been pulled down and their materials used for secular purposes. Even now Wisby, the capital, is said to retain eighteen churches belonging to the period of its prosperity; the whole island containing twice or three times that number.

The cathedral was originally founded about the year 1100, burnt down in 1175, and rebuilt as we now find it about 1225. Like all the others it is small, being only 180 ft. long by 80 in width. It is the only church now used for divine service, the remainder being in ruins.

One of the most remarkable churches in Wisby is that of the Holy Anders, founded originally, it is said, in 1046. It is one of those double or two-storeyed churches so common in some parts of Germany, but which in this instance displays peculiarities not found elsewhere.



Holy Anders Church, Wisby. From Marryat's 'One Year in Sweden.'

The nave is an octagon about 52 ft. east and west. A square space in the centre is bounded by four stout pillars, between which the vault of the lower storey is omitted, so as to leave an opening into the upper storey. Four pillars of slender design support the vault of the upper church, and the whole, with the roofs, rises to about 100 ft. To the eastward is a choir, externally a rectangle, 32 ft. by 25, but internally semicircular at the eastern end.

The church most like this in Germany is perhaps that at Schwartz Rheindorf (woodcuts Nos. 456 and 457). It also resembles the chapel at Landsberg (woodcut No. 458), but the most extended and indeed the typical example of a church of this class is St. Gereon's at Cologne (woodcuts Nos. 478 and 479).

The churches of St. Lawrence and St. Drothens both belong probably to the 11th century. That of St. Nicholas must be as late as the 13th, probably the end of it, and the others range between these two dates, forming in themselves what is rarely met with — a complete and unaltered series of examples of the style.

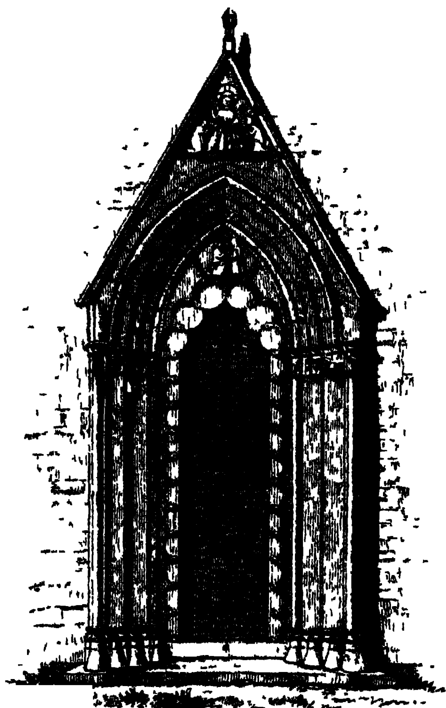
The most striking peculiarity of the Gothland churches is the constant appearance of the pointed arch at a date earlier than we find it



524 Portal, Sanda Church, Gothland. From Marryat's 'One Year in Sweden.'

as a decorative feature in other parts of Europe. It may be, however, that the instances where it is found are additions or alterations of a later date; but the evidence is at least strong enough to merit most careful examination. It is by no means improbable that in a city where coins of the Chalifs are constantly found, the pointed arch may have been introduced from the East at an earlier date than the Crusades, which seem to have suggested its employment in France.

The earliest church known to exist in Gothland, still bearing the distinctive name of Stenkyrka, was erected 1032. The great building epoch of the island is comprised in the 100 years that succeeded that event.[1] Yet during this period we find such examples as the Portal of Sandeo church (woodcut No. 524) confidently dated as belonging to the year 1058, or the one from Gerum church (woodcut No. 525) dated eight years earlier! Whatever their date, they are singularly elegant specimens of the art, and worthy of being quoted, if for that reason alone.



525. Portal, Gerum Church, Gothland. From Marryat's 'One Year in Sweden.'

Even if we hesitate to admit the antiquity of these examples, it seems difficult to refuse the evidence of such an interior as that of Folo Church (woodcut No. 526). There is nothing in the character of the pillars to render doubtful their belonging to the year 1096, to which they are assigned. They may be taller than similar examples would be in our country; but we are now treating of a country where wood was a more common building-material than stone, and where consequently slenderer forms might be expected. There seems as little reason to doubt that the pointed arches which they support are part of the original design. If these examples should prove really to be of the date

[1] See Marryat's 'One Year in Sweden' (Murray, 1862), from whom most of these particulars are borrowed.

assigned to them, we must remodel our chronology of the pointed arch in Europe to a considerable extent. Before doing so, however, it would be important that they should be investigated with more care than has hitherto been bestowed upon them, by some thoroughly competent archæologist.



Fol Church, Gothland. From Marryat's 'One Year in Sweden.'

Another peculiarity seems to be that the Gothland churches are all small buildings, like the Greek churches. There does not appear to have been any metropolitan basilica, or any great conventual establishment, but an immense number of detached cells and chapels scattered in groups all over the island, with very few that could contain a congregation of any extent. Till, however, they are investigated with care and drawn, it is impossible to say whether this arose from any affinity to the Greek Church, or from some local peculiarity which we do not now understand.

Round Churches.

To the Archæologist the Round Churches form the most interesting group in the Scandinavian province, though to the architect they can hardly be deemed of much importance. They are, however, so remarkable that many theories have been formed to account for their peculiarities. The most general opinion seems to be that the circular form was adopted for defensive purposes. The position of their apses, however, their large windows near the ground, and the unprotected position of their doors as originally constructed, all militate against this idea, besides that a square form was as easily defensible, in the age when they were erected, as a circular one.

A more probable suggestion is that the people when first converted to Christianity clung to the circular form, as the sacred one which they had been accustomed to reverence in the tombs of their ancestors. Such, for instance, were the three said to cover the remains of Woden, Thor, and Freya, which were worshipped at Gamla Upsala, down to the conversion of the country in the 11th century.



[illegible] Round Church, Thorsager. From Marryat's 'Jutland and the Danish Isles.'

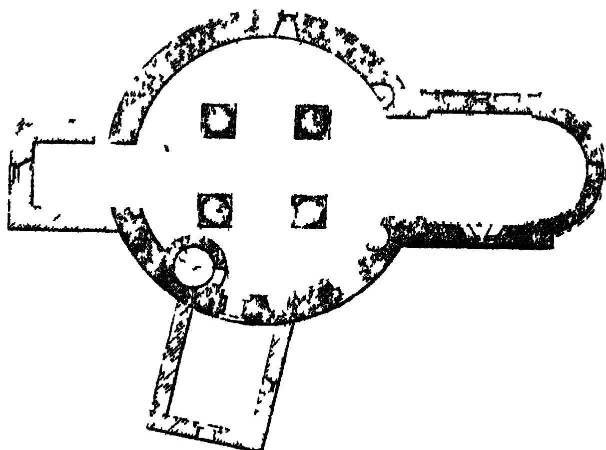
The probability seems to be that they are the lineal descendants of those circles of stones—half tomb, half temple—which are known as spread over this country from Stonehenge to Stennis, and which are equally common throughout the Scandinavian province.

It probably also was the case that the circular form of church was much more common in northern Europe in the early centuries of the

Christian faith than afterwards. In the richer and more populous South they were superseded, as has above been pointed out, by basilicas of more extended dimensions, into which they were frequently absorbed. In the poorer North they have sufficed for the scant population and remained unchanged.

Mr. Marryat enumerates eight examples in Denmark,[1] and there







5.. Section and Ground Plan of Round Church, Thorsager. From Marryat's 'Jutland and the Danish Isles.'

[1] Two in Zealand—Storeheddinge and Biernede; one in Funen—Horne, at Faaborg; one in Jutland—Thorsager, and four in Bornholm—Osterlars, Nykors, Ols, and Ny. —Vol. ii. p. 49.

are at least as many, if not more, in Sweden. All are of the Teutonic type—naves with small apses—as contradistinguished from the French or Celtic form, where the circular part became the choir to which the nave was added afterwards.

That at Thorsager, in Jutland, though not one of the oldest, may be taken as a type of its class, and its arrangement and appearance will be understood from the annexed plan, section, and view (woodcuts Nos. 527 and 528). The building is not large; the diameter of the circle internally being only 40 ft., and the floor incumbered by four great pillars; the total length over all is 90 ft. Originally it seems to have been intended as a two-storeyed church, the vault being omitted over the central compartment, as was the case in the Holy Anders Church at Wisby (woodcut No. 523). This circumstance would account for its peculiarities much more satisfactorily than the theory that it was fortified, of which no trace appears in its general ordinance. The whole design is certainly pleasing and picturesque, though there is a little awkwardness in the way the various parts are fitted together.

The Round Church at Oster Lars, in Bornholm (woodcut No. 529), is of exactly the same type as that at Thorsager, but older, and having more the appearance of being fortified than the other; there being a range of small openings immediately under the roof. These, however, are singularly illsuited for defensive purposes—as war was understood when the church was built—and look much more like the rudiments of an apsidal gallery, as seen at Lund, and so commonly introduced on the Rhine shortly after this period.

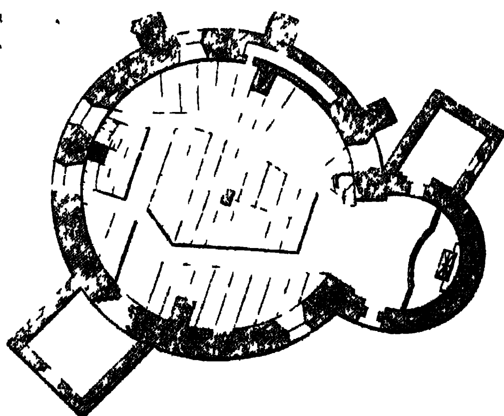


529. Round Church of Oster Lars, Bornholm. From Marryat's 'Jutland and the Danish Isles.'

In Gothland there are several examples of round churches, the most typical being that at Hagby (woodcut No. 530); though it is not so picturesque as the two last quoted, it differs in reality very little from them, except in the absence of the 4 central pillars, showing a permanence and consistency of type throughout the whole province where they are found. So slight indeed are the differences that it is hardly



View of Hagby Church, Gothland. From Marryat's 'One Year in Sweden.'



10 20 40 60 80 100 ft.

531. Plan of Hagby Church. From Marryat's 'One Year in Sweden.'

worth while to point them out, more especially as they are not in themselves objects of much beauty; nor were they afterwards developed in the country where they are found into forms possessing much architectural significance.

So great a favourite was this form, however, that it clung to the soil long after its meaning was lost, and we find it stretched into a tall octagonal spire in Laderbro Church, but still serving as a nave



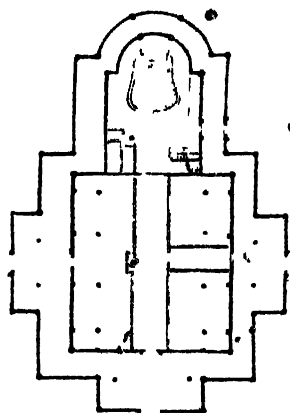
532 Laderbro Church and Wapenhus, Gothland. From Marryat's One Year in Sweden.

to a small choir, the foundation of which is said to date as far back as 1086. The octagon as we now see it certainly belongs to the 13th or 14th century. Something of the same feeling may have led to the peculiar arrangement of Kallundborg Church (woodcut No. 522). There four octagonal naves lead to as many choirs joined together in the centre. If we had more knowledge, perhaps we could trace the affiliation of all these forms, and complete a little genealogy of the race.

WOODEN CHURCHES.

Curious as these circular edifices certainly are, there is a group of wooden churches still existing in Norway which are as peculiar to the province and as interesting to the antiquary at least, if not to the architect, as anything found within its limits. They are not large, and, as might be expected from the nature of the materials with which they are constructed, they are fast disappearing, and in a few years not many probably will remain; but if we may judge from such accounts as we have, they were at one time numerous, and indeed appear to have been the usual and common form of church in that country. Everywhere we read of the wooden churches of Saxon and Norman times in our country, and of the contemporary periods on the Continent; but these have almost all been either destroyed by fire or pulled down to make way for more solid and durable erections. That at Little Greenstead in Essex is almost the only specimen now remaining in this country.

The largest of those now to be found in Norway is that of Hitterdal. It is 84 ft. long by 57 across. Its plan is that usual in churches of the age, except that it has a gallery all round on the outside. Its external appearance (woodcut No. 534) is very remarkable, and very unlike anything in stone architecture. It is more like a Chinese pagoda, or some strange creation of the South Sea islanders, than the sober production of the same people who built the bold and massive round Gothic edifices of the same age.



533. Plan of Church at Hitterdal.

Another of these churches, that at Burgund, is smaller, but even more fantastic in its design, and with strange carved pinnacles at its angles, which give it a very Chinese aspect.

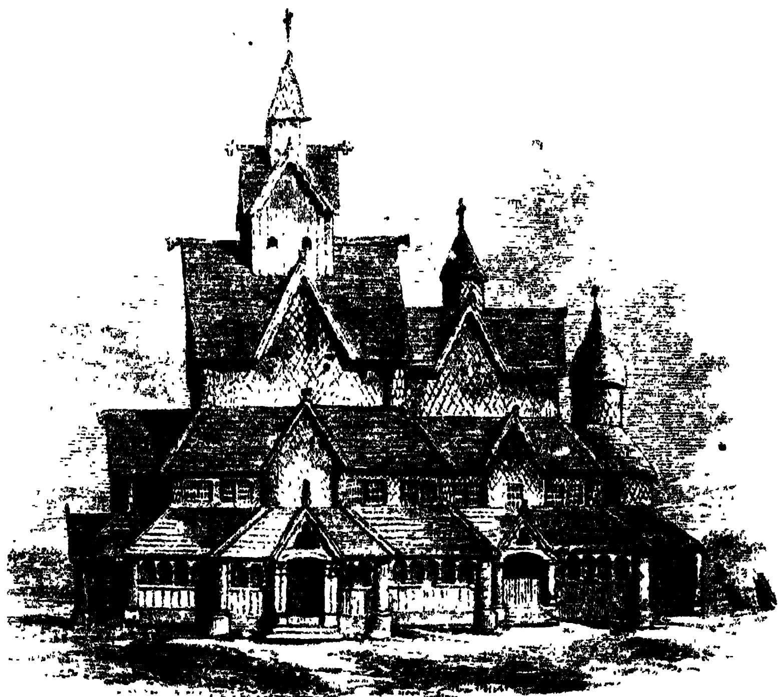
That at Urnes is both more sober and better than either of these but much smaller, being only 24 ft. wide by 65 ft. from east to west. As may be seen from the view (woodcut No. 535), it still retains a good deal of the Runic carving that once probably adorned all the panels of the exterior, as well as the various parts of the roof. As these decayed they seem to have been replaced by plain timbers, which of course detract very much from the original appearance.

All the doorways and principal openings are carved with the same elaborate ornaments, representing entwined dragons fighting and biting each other, intermixed occasionally with foliage and figures.

This style of carving is found on crosses and tombstones, not only in Scandinavia, but in Scotland and Ireland. It is only known to exist in its original form on wood in these singular churches.

There can be no doubt about the age of these curious edifices, for not only does this dragon-tracery fix them to the 11th or 12th century, but the capitals of the pillars and general character of the mouldings exactly correspond with the details of our own Norman architecture, so far as the difference of materials permits.

With the circular churches and those at Wisby these wooden churches certainly add a curious and interesting chapter to the history of Christian architecture at the early period to which they belong, and are well deserving more attention than they have received.



634. View of the Church at Hitterdal. From Dahl's 'Holz Baukunst in Norwegen.'

When our knowledge of the examples is more complete, we may perhaps be able to trace some curious analogies from even so frail a style of architecture as that of wood. Something very like these Norwegian churches is found in various parts of Russia. The mosques and other buildings erected in Cashmere and Thibet of the Deodar pine-wood, are curiously like them. The same forms are found in China

and Burmah, and much of the stone architecture of these countries is derived directly from such a wooden architecture as this. It may perhaps only be, that wherever men of cognate race strive to attain a given well defined object with the same materials, they arrive inevitably at similar results. If this should prove to be the case, such a uniformity of style, causing without intercommunication among people so differently situated would be even more curious and instructive than if we could trace the steps by which the invention was carried from land to land, and could show that the similarity was produced by one nation adopting it from another.



[illegible] Church of Urnes, Norway

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